



# VIRTUAL REALITY: BEYOND GAMING

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GYAN REPORT

# ABOUT GYAN AI

Gyan (pronounced gee-yahn) is an auto-curating AI research platform. It discovers relevant content, automatically identifies major themes and ideas, organizes results into a table of contents and discovers new insights from the web or your content repository in real-time.

## THE VALUE



### **DISCOVERS RELEVANT CONTENT**

*Given a research area, Gyan's AI casts an expansive search to find the most relevant content. Gyan linguistically analyzes entire articles to determine whether they're relevant to your research. Gyan extracts relevant insights from each document so that you can be pointed to the most important information quickly.*



### **ORGANIZES YOUR RESEARCH TO REDUCE TIME**

*Gyan saves you time by compiling all relevant content into a table of contents tailored around your research needs. For each topic in your table of contents, Gyan will produce an organized list of relevant articles that discuss that topic, and for each article you will be navigated to the portions of it that are most relevant to your objectives.*



### **PROVIDES CONTENT SUMMARY**

*Gyan provides a brief set of highlights for each selected article, so that you can decide if the article is relevant for your research efforts.*

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# TABLE OF CONTENTS

Research Brief.....	4
Industry Applications.....	5
Recreation.....	7
Health & Wellness.....	9
Education & Learning.....	11
Additional Search Concepts to Consider.....	13

# RESEARCH BRIEF

The client tasked Gyan with this key research question:

***How is virtual reality (VR) being utilized in industries outside of gaming?***

Based on this question, Gyan suggested the following topics to be a part of this research process:

- Industry Applications
- Recreation
- Health & Wellness
- Education & Learning

The sources Gyan searched: the web and Google Scholar.

Once Gyan did its search, it found **656 total articles**. Of those articles, it identified **559 articles** to be the most relevant for the search:

- Industry Applications: 219 articles
- Recreation: 120 articles
- Health & Wellness: 93 articles
- Education & Learning: 127 articles

The subsequent pages will feature these articles, as well as additional resources that will help the client in their research discovery process.

# INDUSTRY APPLICATIONS

## Top Search Results

*Articles are organized according to their relevance to the client's research. Only the articles that include an extensive, robust discussion of the critical topics are included in the top search results.*

### **Augmented reality to provide new skills for manufacturing workforce education**

***Purdue University***

**October 29, 2020**

- But to keep pace with an increasing skills gap, some manufacturers are now turning to augmented and virtual reality to teach their workers new skills.
- "Professor Ramani's team is addressing this critical challenge by making it possible for the first time for skilled workers to easily create augmented reality experiences that will allow younger workers to learn by doing rather than by watching."
- For example, a newly hired factory worker may wear augmented reality glasses while being trained on a piece of equipment and see graphics overlain on the machine about how to operate the controls.

### **Digital reality in government: How AR and VR can enhance government services**

***Deloitte***

**August 24, 2018**

- Once the realm of science fiction, digital reality has quickly matured from experimentation to industrial applications to user-friendly smartphone apps.

### **How virtual reality could change the journalism industry**

***PBS***

**January 15, 2018**

- Eventually, Barbara came up with the brilliant idea to simulate the aftermath of Hurricane Katrina, so that users could get a better sense of the human terror and suffering caused by the storm, experiences that traditional media could only hint at through distant camera shots or in written reports.
- Situations in which the surroundings or environment are a crucial part of the story make for the best VR, as the best, early practitioners are starting to realize.
- But it's safe to say some purveyors of nonfiction narratives will abuse the mutable nature of VR for ideological or sensational ends.

**[CLICK HERE TO VIEW MORE ARTICLES ON THIS TOPIC](#)**

## Key Videos



### The Evolution of Virtual Reality by 2025

Science Time

July 4, 2020



### 15 Things You Didn't Know About The Virtual Reality Industry

Alux.com

February 27, 2019



### Why Microsoft Uses Virtual Reality Headsets To Train Workers

CNBC

January 21, 2019

# RECREATION

## Top Search Results

Articles are organized according to their relevance to the client's research. Only the articles that include an extensive, robust discussion of the critical topics are included in the top search results.

### **See the Ancient World Through Virtual Reality**

***Smithsonian Magazine***

**February 22, 2017**

- In addition to the Temple of Venus and Rome, Lithodomos has a recreation of the Arènes de Lutèce, a Roman amphitheater and stage from the beginning of the 2nd century AD, now just fragments tucked away behind apartment buildings in Paris's Latin Quarter.
- It's also recreated the Odeon of Agrippa, a concert hall in the center of the Athenian agora, and parts of ancient Jerusalem.
- The recreations can be used on site with a smartphone headset, or from home or school using a commercial VR system like Oculus Rift.

### **JFK Library Launches AR Recreation of Apollo 11 Mission in Celebration of 50th Anniversary of Moon Landing**

***John F. Kennedy Presidential Library and Museum***

- It immerses users in the Apollo 11 mission from 1969 with a first-ever full-scale recreation of the 363-ft Saturn V Rocket that can be seen with the app on its landing pad outside of the JFK Library in Boston beginning today.

### **A virtual tour of the Eiffel Tower**

***Société d'Exploitation de la tour Eiffel***

**April 14, 2020**

- With a first-person perspective, panoramas, and an interactive historical journey, we have brought together the very best virtual tours of the Iron Lady to offer our readers an extraordinary immersive experience.
- After enjoying the panoramic views from the Tower and historical exhibits, complete your virtual tour directly on our website, under the Discover and Monument tabs, that allow you to explore all there is to know about the Tower.
- On the occasion of the Eiffel Tower's 130<sup>th</sup> anniversary, TV5 Monde created a 360° virtual reality tour that reveals every aspect of the Tower in 3 minutes, featuring sunrise from the Champ-de-Mars and a panoramic ascent to the top, both inside and out.

**[CLICK HERE TO VIEW MORE ARTICLES ON THIS TOPIC](#)**

## Key Videos



### **These Virtual Reality Apps Let You Travel The World Without Ever Leaving Home**

*NBC News*

October 12, 2017



### **The world's first Virtual Reality travel search and booking experience**

*Amadeus IT Group*

April 25, 2017



### **Virtual Reality: Help or Hinder Tourism?**

*Tomahawk*

November 19, 2015



# HEALTH & WELLNESS

## Top Search Results

*Articles are organized according to their relevance to the client's research. Only the articles that include an extensive, robust discussion of the critical topics are included in the top search results.*

### **Can virtual reality really get you fit?**

***The Guardian***

**July 26, 2020**

- "We don't see ourselves as a gaming studio, but as a fitness company," says Cole, adding that FitXR was set up in the belief that "the next computing platform after the smartphone was going to be some kind of mixed reality headset" and that "fitness everywhere would be completely transformed."
- "The combination of the full immersion, helping people forget that they are working out, and the gamification and competition, motivating them to push harder, is why VR fitness appeals more and more to the general population," she says.
- However, he envisages a future where people might take a mixed-reality headset – one that lets them see their surrounding environment – to the gym and use it to show them how to use particular weights or machines.

### **Virtual Reality Exercise as a Coping Strategy for Health and Wellness Promotion in Older Adults during the COVID-19 Pandemic**

***National Library of Medicine***

**June 25, 2020**

- Findings from this study will better inform the development of technology-savvy PA programs for wellness promotion in older adults who practice social distancing and exercise from home under the unprecedented global health crisis.

### **What a Real Wedding in a Virtual Space Says About the Future**

***Wired***

**March 27, 2018**

- But this may be the first time a couple has met in VR, become close in VR, and then tied the knot in VR, nurturing along their relationship from hello to matrimony with only a nominal amount of real-life contact.
- "A lot of the people in VR have a similar social anxiety," Priscilla says.
- Ben fell in with Priscilla's group and the two of them became fast friends – texting throughout the day, hanging out in VR at night.

**[CLICK HERE TO VIEW MORE ARTICLES ON THIS TOPIC](#)**

## Key Videos



### **4 Healthcare Cases for VR**

*Eye on Tech*

May 16, 2020



### **Virtual Reality Technology Treatment for Mental Illness**

*Stanford Health Care*

November 6, 2018



### **Virtual Reality Could Make Healthcare More Pleasant**

*The Medical Futurist*

June 17, 2018

# EDUCATION & LEARNING

## Top Search Results

*Articles are organized according to their relevance to the client's research. Only the articles that include an extensive, robust discussion of the critical topics are included in the top search results.*

### **Active Learning Augmented Reality for STEAM Education—A Case Study**

***MDPI Education Sciences***

**August 4, 2020**

- In this article, we investigate the method of Active Learning for the teaching of STEAM subjects, using a format where students are tasked with building an AR application as part of their learning.
- We evaluate the applicability of the Active Learning for STEAM subjects with a qualitative, case study approach, applying the workshop format as an extracurricular activity in our work with students from a range of secondary schools in Oxford.
- We discuss how the format works, so it can be embedded into regular curricula, not just as an extracurricular activity, also providing an overview on the involved teaching units and rationale.

### **Virtual Reality in Education: Benefits, Tools, and Resources**

***American University School of Education***

**December 16, 2019**

- In addition to providing students with immersive learning experiences, other benefits of virtual reality in education include the ability to inspire students' creativity and spark their imaginations.

### **AR/VR in K-12: Schools Use Immersive Technology for Assistive Learning**

***EdTech Magazine***

**August 22, 2019**

- Technology helps educators give each student the attention he or she needs, through tools such as online learning modules, personal tablets and, now, virtual and augmented reality.

**[CLICK HERE TO VIEW MORE ARTICLES ON THIS TOPIC](#)**

## Key Videos



### What is Virtual Reality's (VR) impact on education?

*Educraft*

October 8, 2020



### How Virtual Reality Turns Students Into Scientists

*Ted*

February 19, 2020



### VR in Education

*AMD*

September 22, 2016

# ADDITIONAL SEARCH CONCEPTS TO CONSIDER

*After analyzing all of these articles – individually and as a collective – it looks like these are the concepts that were most prominent. Gyan can generate a new report with additional information related to any of these concepts:*

## **Health and Wellness**

- Senior Care Virtual Reality
- Pain Management Hospitalized Patients Virtual Reality
- AARP

## **Recreation**

- Science Labs
- ChargerREC
- Virtual SXSW Impacts Austin Bars
- Virtual Recreation Center
- Virtual Omaha
- John F. Kennedy Presidential Library
- Ancient World, History Recreation
- BCRP Virtual Recreation Center
- Recreation Center Virtual Reality Entertainment
- Georgian Pleasure Garden Virtual Reality Recreation
- Oliver Pavicevic

# ADDITIONAL ARTICLES: INDUSTRY APPLICATIONS

*The full set of articles discovered by Gyan based on your research question can be found in this section.*

## **Working in Virtual Reality: The Future of Design Collaboration- VMDO Architects**

URL: <https://www.vmdo.com/working-in-virtual-reality-the-future-of-design-collaboration.html>

Publisher: vmdo.com

- Virtual reality has incredible potential to help us engage clients with architecture," says Joe Celentano, VMDO principal, after experimenting with virtual reality for design.
- "VR could be a breakthrough tool that supports how we collaborate with our clients, partners, and stakeholders to help people engage with virtual spaces in the early phases of design."
- By encouraging stakeholders to test space before it's built, VR helps advance decision-making, leverage diverse expertise, and capture empathy-driven insight-- overall creating a more efficient and intelligent design process.

## **HBO releases a wellness-focused AR app to promote 'His Dark Materials' - TechCrunch**

URL: <https://techcrunch.com/2020/11/10/hbo-releases-a-wellness-focused-ar-app-to-promote-his-dark-materials/>

Publisher: techcrunch.com

- HBO releases a wellness-focused AR app to promote 'His Dark Materials'-- TechCrunch
- It also collaborated with HBO to develop "Beyond the Wall," a virtual reality experience tied to "Game of Thrones," as well as the Magic Leap GoT experience called "The Dead Must Die," which were both available via installations in flagship AT&T stores.
- And it incorporates augmented reality by allowing you to watch animations where your daemon interacts with the world around you.

## **Reincarnation- Virtual Reality Recreation of Yves Tanguy's World- Currents New Media**

URL: <https://currentsnewmedia.org/work/reincarnation-virtual-reality-recreation-of-yves-tanguys-world/>

Publisher: currentsnewmedia.org

- Reincarnation is a virtual reality art experience, based on French surrealist painter Yves Tanguy's paintings in combination with my creation of pseudo-natural beings.

## **Virtual reality- Education and training| Britannica**

URL: <https://www.britannica.com/technology/virtual-reality/Education-and-training>

Publisher: britannica.com

- Learn how virtual training programs using simulators benefit various professions
- The new company initially focused on the development of graphics applications, such as scene generators for flight simulator systems.

- By the late 1970s, military flight simulators were also incorporating head-mounted displays, such as McDonnell Douglas Corporation's VITAL helmet, primarily because they required much less space than a projected display.

### **"You can actually feel like you're in the same place": Microsoft Mesh powers shared experiences in mixed reality**

URL: <https://news.microsoft.com/innovation-stories/microsoft-mesh/>

Publisher: news.microsoft.com

- It was the company's first opportunity to showcase some of the experiences made possible by Microsoft Mesh, a new mixed-reality platform powered by Azure that allows people in different physical locations to join collaborative and shared holographic experiences on many kinds of devices.
- Though users will have the richest experiences in mixed or virtual reality, Microsoft Mesh's open standards will give developers the freedom to build solutions that will work across many different devices
- It's a social mixed reality platform that he's thought about for years but only now have technologies like Microsoft Mesh caught up with that vision.

### **Why Virtual-Reality Training for Employees Is Catching On**

URL: <https://www.shrm.org/ResourcesAndTools/hr-topics/technology/Pages/Why-Virtual-Reality-Training-for-Employees-Is-Catching-On.aspx>

Publisher: shrm.org

- Why Virtual-Reality Training for Employees Is Catching On

### **The VR Advantage: How virtual reality is redefining soft skills training**

URL: <https://www.pwc.com/us/en/services/consulting/technology/emerging-technology/vr-study-2020.html>

Publisher: pwc.com

- VR soft skills training study
- -LRB- We learned that during the VR study and multiple BXT experiences, where we gathered different viewpoints and worked together to identify what matters most.-RRB-
- How virtual reality is redefining soft skills training

### **Virtual Reality: The Revolutionary Technology of Computer-Generated Artificial Worlds- and How It Promises to Transform Society: Rheingold, Howard: 9780671778972: Amazon.com: Books**

URL: <https://www.amazon.com/Virtual-Reality-Revolutionary-Technology-Computer-Generated/dp/0671778978>

Publisher: amazon.com

- Track your books
- Bring your club to Amazon Book Clubs, start a new book club and invite your friends to join, or find a club that's right for you for free.
- Make the most of your Amazon Business account with exclusive tools and savings.

### **Virtual Reality Is About to Change the World | Time**

URL: <https://time.com/3987022/why-virtual-reality-is-about-to-change-the-world/>

Publisher: time.com

- For each VR demo, I put on a clunky pair of goggles, most of which have a smartphone slipped into a slot in front of my eyes, which does most of the work.
- But they are creating everything else.
- VR companies are also shying away from putting viewers on virtual roller coasters and Formula One tracks.

### **Virtual reality training may save firefighter lives**

URL: [https://www.usfa.fema.gov/training/coffee\\_break/070820.html](https://www.usfa.fema.gov/training/coffee_break/070820.html)

Publisher: [usfa.fema.gov](https://www.usfa.fema.gov)

- Virtual reality training may save firefighter lives
- From 2008-2019, 109 firefighters lost their lives due to training injuries.
- The use of VR technology allows training for incidents that can not easily be replicated or may be very costly to recreate, not to mention eliminating the hazards involved in "live training."

### **Strivr| Enterprise Virtual Reality Training Solutions**

URL: <https://www.strivr.com/>

Publisher: [strivr.com](https://www.strivr.com)

- Employees are not engaged and training impact is not measurable.
- Less training time
- Are you ready to take your training to the next level?

### **3 Ways Virtual Reality in Construction is Shaping the Industry**

URL: <https://bim360resources.autodesk.com/connect-construct/3-ways-virtual-reality-in-construction-is-shaping-the-industry>

Publisher: [bim360resources.autodesk.com](https://bim360resources.autodesk.com)

- Unlike 3D modeling, it places the user directly inside the virtual environment, so that the user experiences a full immersion into the virtual space.
- Clients can now walk into a VR model and see for themselves what their project will look like when it's complete
- Because VR gives teams the ability to "see" a project site without traveling to it, it is easy for teams to collaborate in real-time, within a shared environment, where they can literally point out details and issues, ask questions, and immediately make decisions about changes.

### **Virtual Reality, the technology of the future- Iberdrola**

URL: <https://www.iberdrola.com/innovation/virtual-reality>

Publisher: [iberdrola.com](https://www.iberdrola.com)

- Virtual Reality creates simulated environments the user becomes immersed in by using specific headsets or helmets.
- DIFFERENCES WITH AUGMENTED REALITY

### **How Virtual Reality Is Impacting Industrial Design And Engineering- Mbryonic**

URL: <https://mbryonic.com/vr-engineering/>

Publisher: [mbryonic.com](https://mbryonic.com)

- VR has truly become a necessary enterprise, with the space expected to grow from \$641 million in 2018 to \$4.4 billion in 2023.
- This is especially crucial in industries where there is no room for error.



- The integration of VR in factories and product design is enabling manufacturers to simplify these processes, increase quality, and improve safety standards all around the globe.

### **How Augmented Reality Became a Serious Tool for Manufacturing**

URL: <https://www.automationworld.com/process/iiot/article/21259479/how-augmented-reality-became-a-serious-tool-for-manufacturing>

Publisher: automationworld.com

- Augmented reality is not just about fun and games.
- "Augmented reality can help operators and technicians find assets quickly and easily-a difficult task when they must identify one device out of hundreds or thousands," notes Kapoor.
- Making a mesh of things Implementing augmented reality is usually harder to do than implementing virtual reality because an AR system needs a mechanism for determining where elements are in the real world so that it can overlay the virtual elements with precision.

### **Unleashing the Power of Data with IoT and Augmented Reality| BCG**

URL: <https://www.bcg.com/publications/2020/unleashing-the-power-of-data-with-iot-and-augmented-reality>

Publisher: bcg.com

- AR applications are using the myriad kinds of data generated by IoT devices and components to help employees be more effective and productive.
- For example, an IoT-AR application could help a company optimize the use of a warehouse by determining the amount of space to allocate to high-turnover products, monitoring inventory health, and identifying aging stock to move out.
- IoT devices capture data from the physical world so that it can be analyzed, and AR devices take that digital data and render it back on the physical world for people to view and interact with.

### **Beyond Gaming: 10 Other Fascinating Uses for Virtual-Reality Tech**

URL: <https://www.livescience.com/53392-virtual-reality-tech-uses-beyond-gaming.html>

Publisher: livescience.com

- Virtual-reality headsets are now being used in many industries as a way of training people or providing a new way to experience things.
- Even the tourism industry has jumped onboard, with Marriott's Travel Brilliantly collaboration with Oculus promising to satisfy people's wanderlust.
- The immersive experiences provided by virtual-reality headsets can revolutionize education in all fields, the company said.

### **Augmented Reality: All Eyes on Industrial Applications**

URL: <https://www.cleantech.com/augmented-reality-all-eyes-on-industrial-applications/>

Publisher: cleantech.com

- Back in real life, we are noticing an increasing use of augmented reality in industrial settings.
- Boeing's partnership with AR start-up NGRain, for instance, is aimed at lowering error rates with this process.

- AR can layer on real-time instructions for assembly, and superimpose digital models over the physical pieces that workers are handling.

### **Virtual Reality | Home**

URL: <https://www.springer.com/journal/10055>

Publisher: [springer.com](https://www.springer.com)

- To complement original research articles, the journal also welcomes papers that provide state of the art reviews of specific aspects of VR/MR/AR.
- From business and commerce to telecommunications, entertainment and gaming to medicine, Virtual Reality covers a wide range of specific application areas.

### **Enhance Virtual Reality- Grand Challenges**

URL: <http://www.engineeringchallenges.org/challenges/virtualreality.aspx>

Publisher: [engineeringchallenges.org](http://www.engineeringchallenges.org)

- But within many specialized fields, from psychiatry to education, virtual reality is becoming a powerful new tool for training practitioners and treating patients, in addition to its growing use in various forms of entertainment.
- Other experiments have tested virtual reality's use in treating social anxieties, such as fear of public speaking, and show that it can be a successful treatment for some more serious disorders, such as post-traumatic stress disorder.
- For virtual reality systems to fully simulate reality effectively, several engineering hurdles must be overcome.

### **Augmented reality examples: 10 industries using AR to reshape business**

URL: <https://www.clickz.com/augmented-reality-examples-10-industries-using-ar-to-reshape-business/>

Publisher: [clickz.com](https://www.clickz.com)

- For example, tequila-maker Patron ran an AR-based campaign to give iOS users an AR experience of drinking different kinds of tequila while a mini-bartender explained about the taste of each.
- Using AR technology, they created a mobile app that allows users to choose from thousands of beauty products and shades for customized makeovers.
- From booking hotel rooms and transportation to planning events and outings, augmented reality helps make traveling hassle-free and memorable.

### **Stereoscopic displays for virtual reality in the car manufacturing industry: application to design review and ergonomic studies- NASA/ADS**

URL: <https://ui.adsabs.harvard.edu/abs/2002SPIE.4660..504M/abstract>

Publisher: [ui.adsabs.harvard.edu](https://ui.adsabs.harvard.edu)

- Stereoscopic displays for virtual reality in the car manufacturing industry
- We show that stereoscopic displays are necessary and must fulfill several constraints due to the proximity and size of the car dashboard.

### **3 Ways Virtual Reality in Construction is Shaping the Industry**

URL: <https://bim360resources.autodesk.com/connect-construct/3-ways-virtual-reality-in-construction-is-shaping-the-industry>

Publisher: [bim360resources.autodesk.com](https://bim360resources.autodesk.com)

- Unlike 3D modeling, it places the user directly inside the virtual environment, so that the user experiences a full immersion into the virtual space.
- Clients can now walk into a VR model and see for themselves what their project will look like when it's complete
- With the help of virtual reality, you can take a "walk" through Eklephant village in Nepal.

### **The Rise Of Virtual Reality In Real Estate**

URL: <https://www.forbes.com/sites/forbesrealestatecouncil/2017/06/13/the-rise-of-virtual-reality-in-real-estate/>

Publisher: forbes.com

- Before long, you'll be able to attach a VR headset to your phone and get an open house experience without having to go to the property in person.

### **VIVE United States| Discover Virtual Reality Beyond Imagination**

URL: <https://www.vive.com/us/>

Publisher: vive.com

- VR for a new age of business and enterprise.
- We have the right VR set for you.

### **VR Applications: 21 Industries already using Virtual Reality**

URL: <https://virtualspeech.com/blog/vr-applications>

Publisher: virtualspeech.com

- Don't get me wrong, there are some great virtual reality games out there, but VR, AR and MR are going to shape our future in so many more ways than gaming.
- VR makes it possible to see not just what a building or space will look like but how it will feel.
- vRetail are using VR to enhance the shopping experience.

### **Virtual Reality News-- ScienceDaily**

URL: [https://www.sciencedaily.com/news/computers\\_math/virtual\\_reality/](https://www.sciencedaily.com/news/computers_math/virtual_reality/)

Publisher: sciencedaily.com

- Scientists have developed a quick and easy approach for capturing 360 ° VR photography without using expensive specialist cameras.

### **10 Real Use Cases for Augmented Reality | Inc.com**

URL: <https://www.inc.com/james-paine/10-real-use-cases-for-augmented-reality.html>

Publisher: inc.com

- 10 Real Use Cases for Augmented Reality
- Providing workers with more efficient ways to go about their job is one of the best ROI use cases in today's business environment.
- This use case will only continue to get stronger as machine-to-machine IoT technology grows and can feed information directly to AR headsets.

### **Microsoft HoloLens| Mixed Reality Technology for Business**

URL: <https://www.microsoft.com/en-us/hololens>

Publisher: microsoft.com

- See new ways to work better together with the ultimate mixed reality device.

## **Augmented Reality Applications: Transforming Four Industries | Jabil**

URL: <https://www.jabil.com/blog/virtual-and-augmented-reality-applications-in-major-industries.html>

Publisher: jabil.com

- Without doubt, augmented and virtual reality have become synonymous with the gaming industry-- where consumers find the most relevant use cases.
- AR features will soon be a requirement for consumers in the market for a new car.
- While the concept may sound simple, it is far from it.

## **5 Cool Augmented Reality Applications in the Manufacturing Sector**

URL: <https://interestingengineering.com/augmented-reality-applications-manufacturing-sector>

Publisher: interestingengineering.com

- 5 Cool Augmented Reality Applications in the Manufacturing Sector
- The company has developed its own AR app that assists technicians in performing service and maintenance checks.
- As the hardware and software for AR improve, this embryonic technology will gain more potential to disrupt the traditional industrial environment eventually.

## **Augmented Reality and Virtual Reality Market with COVID-19 Impact Analysis by Offering, Device Type, Application And Geography- Global Forecast to 2025**

URL: <https://www.globenewswire.com/news-release/2020/11/26/2134364/0/en/Augmented-Reality-and-Virtual-Reality-Market-with-COVID-19-Impact-Analysis-by-Offering-Device-Type-Application-And-Geography-Global-Forecast-to-2025.html>

Publisher: globenewswire.com

- New York, Nov. 26, 2020-- Reportlinker.com announces the release of the report "Augmented Reality and Virtual Reality Market with COVID-19 Impact Analysis by Offering, Device Type, Application And Geography" [https://www.reportlinker.com/p05353246/?utm\\_source=GNW](https://www.reportlinker.com/p05353246/?utm_source=GNW) The virtual reality market is projected to grow from USD 6.1 billion in 2020 to USD 20.9 billion by 2025; it is expected to grow at a CAGR of 27.9% from 2020 to 2025.
- The growing use of smartphones, increasing adoption of smart electronic devices, and surging demand for AR& VR technology in healthcare applications are the major factors boosting the North American AR& VR market's growth.
- The consumer application is expected to hold the largest share of the AR market in 2020

## **Top 10 Applications of Augmented and Virtual Reality in Business**

URL: <https://onix-systems.com/blog/top-10-applications-of-ar-and-vr-in-business>

Publisher: onix-systems.com

- Top 10 Applications of Augmented and Virtual Reality in Business

## **Virtual Reality(VR) Market- Growth, Trends, COVID-19 Impact, and Forecasts (2021- 2026)**

URL: <https://www.mordorintelligence.com/industry-reports/virtual-reality-market>

Publisher: mordorintelligence.com

- VR Technology has gained widespread recognition and adoption over the past few years.
- With technology giants, like Google, investing considerable amounts in tech startups for the development of VR devices and other prominent players investing in their R& D over this segment, the future of the market will be more competitive.

- Moreover, the investors in this region are actively looking to invest in diverse VR technology startups working in the region.

### **Augmented Reality becomes mainstream in Manufacturing, changes the face of the industry**

URL: <https://azure.microsoft.com/en-us/blog/augmented-reality-becomes-mainstream-in-manufacturing-changes-the-face-of-the-industry/>

Publisher: [azure.microsoft.com](https://azure.microsoft.com)

- Augmented Reality becomes mainstream in Manufacturing, changes the face of the industry

### **Virtual Reality in industrial applications- Metso Outotec**

URL: <https://www.mogroup.com/insights/blog/mining-and-metals/virtual-reality-in-industrial-applications/>

Publisher: [mogroup.com](https://www.mogroup.com)

- Remote support with VR and virtual demonstration of equipment installation and servicing e.g. immersive visualization of installation, assembly, repair and maintenance processes
- marketing, e.g. using VR to showcase our equipment at exhibitions and tradeshow
- VR may not be for everyone

### **Virtual Reality for Industrial Applications| SpringerLink**

URL: <https://link.springer.com/book/10.1007/978-3-642-46847-6>

Publisher: [link.springer.com](https://link.springer.com)

- This book gives a systematic overview of the fundamental aspects of VR technology and its industrial applications, based on up-to-date information provided by experts from research and industry.
- All the authors are leading VR researchers.

### **13 Of The Best Virtual Reality Uses In Industry To Date**

URL: <https://www.forbes.com/sites/forbestechcouncil/2019/01/23/13-of-the-best-virtual-reality-uses-in-industry-to-date/>

Publisher: [forbes.com](https://www.forbes.com)

- With near-endless configuring possibilities, VR is seeing more and more companies exploring its implementation.
- VR allows people to get highly dangerous, high-cost training with a small investment and low risk.
- VR is a low-cost, highly effective training tool.

### **Augmented Reality and Mixed Reality**

URL: <https://epson.com/moverio-augmented-reality-smart-glasses-industry-applications>

Publisher: [epson.com](https://epson.com)

- Whether it be Epson's turn-key Moverio Assist solution, or the wide offering by our ISV partners and developers-- Epson provides the tools to support for any industry's AR needs.
- The Epson Drone Soar application is the first glasses optimized app to help pilot your DJI drone.
- Pairing Epson's Augmented Reality Moverio glasses with the DJI Mavic makes flying an immersive first-person experience.

## **Beyond Gaming: 19 Industries AR/VR Is Poised To Transform**

URL: <https://www.cbinsights.com/research/ar-vr-industries-disrupted-beyond-gaming/>

Publisher: cbinsights.com

- From real estate to the military to healthcare, startups are developing AR/VR applications across several areas.
- As for VR, the applications in healthcare are practically endless, ranging from VR-powered telemedicine to "transportive" elder care.
- Mimesys is one startup applying AR/VR to the remote meeting experience.

## **Real-Time Analytics in the World of Virtual Reality and Live Streaming**

URL: <https://rockset.com/blog/real-time-analytics-virtual-reality-live-streaming/>

Publisher: rockset.com

- I could be describing either the VR space or Data Engineering, but in fact this post is about the intersection of both.
- In VR, we know exactly when a user is actively consuming content.
- The content is distributed through both our app, for most of the VR headsets in the market, and also via Oculus Venues.

## **For US manufacturing, virtual reality is for real: PwC**

URL: <https://www.pwc.com/us/en/industries/industrial-products/library/augmented-virtual-reality-manufacturing.html>

Publisher: pwc.com

- VR/AR on path of mainstreamed adoption
- While about one-third of manufacturers are using or plan on using VR/AR in the next three years, nearly 90% of those same manufacturers believe that no more than half of all manufacturers in the US will be using AR/VR technology over the next decade-- and over one-third believe less than 10% will.
- Meanwhile, what's holding back some manufacturers from jumping into the VR/AR world?

## **Taking Virtual Reality for a Test Drive| The New Yorker**

URL: <https://www.newyorker.com/magazine/2019/12/09/taking-virtual-reality-for-a-test-drive>

Publisher: newyorker.com

- In the "living room" was an enormous floating display with a menu of options from Oculus-apps and games that I could buy for \$ 9.99 to \$ 29.99.
- Should I travel aboard the International Space Station and experience zero gravity?
- During the next several weeks, in various offices and media labs, I had adventures that in the physical world would defy the laws of physics but would be business as usual in a Looney Tunes cartoon.

## **Virtual Reality in Industry& Commercial Workplaces - ClassVR**

URL: <https://www.classvr.com/virtual-reality-industry-work/>

Publisher: classvr.com

- Virtual Reality and Augmented Reality can open up a vast array of new possibilities across a wide spectrum of industries, from viewing properties in 360 degrees for real estate, to situational awareness and simulation for military training.

- Virtual Reality holds unlimited opportunities for training in the workplace, from basic manual labouring techniques all the way through to high level executive leadership development.
- Virtual and augmented reality offers experiences like no other, allowing people to conceptualise and understand what's difficult to imagine from a picture or detailed description.

### **Walmart uses virtual reality to hire new managers**

URL: <https://www.usatoday.com/story/tech/2019/07/08/walmart-uses-virtual-reality-hire-new-managers/1635311001/>

Publisher: usatoday.com

- Walmart uses virtual reality to hire new managers
- However, Walmart is n't the only company to dive into the virtual, augmented or mixed realities.
- Walmart, the country's largest private employer, is using virtual reality headsets to test which employees have the aptitude for middle management positions.

### **SXSW unveils online virtual reality showcase with Oculus**

URL: <https://www.screendaily.com/news/sxsw-unveils-online-virtual-reality-showcase-with-oculus/5149805.article>

Publisher: screendaily.com

- SXSW unveils online virtual reality showcase with Oculus
- Based on this 3D model, Ubisoft created a VR tour of Notre-Dame so people can get back to the cathedral and discover point-of-views that were inaccessible to the public, or elements of architecture that were destroyed by the fire, including the famous spire.
- As he ruminates on love and loss, as well as his entrepreneurial projects and acquisitions, in a 9 minute 360 virtual cinema film, we experience what it's like to have fun while aging.

### **AR Watches- Augmented Reality Commerce- Apps on Google Play**

URL: [https://play.google.com/store/apps/details?id=com.arloopa.arwatches&hl=en\\_US&gl=US](https://play.google.com/store/apps/details?id=com.arloopa.arwatches&hl=en_US&gl=US)

Publisher: play.google.com

- AR Watches Apps on Google Play
- Open the AR-Watches app, 2.
- Augmented and Virtual Reality Apps

### **Topic-Summary-Details- CII**

URL: <https://www.construction-institute.org/resources/knowledgebase/10-10-Metrics/result/Topics/RT-TC-02>

Publisher: construction-institute.org

- RT-TC-02 explored efficient approaches to transform the 3D model of a construction project into a VR-ready model for different applications.

### **Is virtual reality the future of the fashion show? Womenswear | Dazed**

URL: <https://www.dazeddigital.com/fashion/article/30163/1/is-virtual-reality-the-future-of-the-fashion-show>

Publisher: dazeddigital.com

- Unfortunately, the industry's first stream did n't quite go as planned-- Lady Gaga tweeted that her new track "Bad Romance" was to be debuted as the models took to the runway, crashing the host website.



- 360 filming is a technique that's already been employed in several high-profile cases-- last season, for what was later revealed to be Raf Simons' final show for Dior, the house made a post-show video available in this style where viewers could use a click wheel to view different aspects of the runway.
- While details on how this will look are sparse, we can assume that giant VR headsets won't be necessary-- viewers will most likely be able to simply move their phones or manipulate their screens to control the direction of the camera.

### **Ten industries using augmented reality and virtual reality | ZDNet**

URL: <https://www.zdnet.com/article/ten-industries-using-augmented-reality-and-virtual-reality/>

Publisher: zdnet.com

- However, entertainment is n't the only space where AR and VR are making inroads.
- The AR wearable lets users do things like see through faulty pipes or overlay directions onto the helmet's display.
- AR and VR is even helping train folks for these types of jobs.

### **Abarth launches world's first virtual reality test drive delivered to homes**

URL: <https://www.automotiveworld.com/news-releases/abarth-launches-worlds-first-virtual-reality-test-drive-delivered-to-homes/>

Publisher: automotiveworld.com

- Abarth has launched the world's first VR 'test drive' pack enabling potential customers to experience the Italian sportscar brand from their sofa.
- With the uncertainty around ever-changing tiers, temporary travel restrictions and dealership closures, the VR experience gives customers the opportunity to enjoy the thrill of driving an Abarth while staying in the comfort and safety of their home.
- Inside the crate will be the VR headset pre-loaded with the 'test drive' footage and a pair of Bose headphones to ensure customers can fully experience the famous growl of the Abarth exhaust.

### **5 Uses of Virtual Reality| Examples& Use Cases| FDM Group | UK**

URL: <https://www.fdmgroup.com/5-exciting-uses-for-virtual-reality/>

Publisher: fdmgroup.com

- We're here to answer all your questions and introduce a few other ways VR technology can be applied across a range of fields
- A lesser known use of VR is in fashion where it has actually been having quite a profound impact.
- in the UK and the US have both adopted the use of virtual reality in their training as it allows them to undertake a huge range of simulations.

### **Topshop use Virtual Reality headsets for catwalk | Retail Innovation**

URL: <http://retail-innovation.com/topshop-use-virtual-reality-headsets-for-catwalk>

Publisher: retail-innovation.com

- Topshop use Virtual Reality headsets for catwalk

### **Spatial's VR Meeting Rooms Are Now Open to Everyone | WIRED**

URL: <https://www.wired.com/story/spatial-vr-ar-collaborative-spaces/>

Publisher: wired.com

- Spatial's VR Meeting Rooms Are Now Open to Everyone



- I shook hands with a stranger the other day.
- I was in my Brooklyn living room, wearing sweatpants and a hoodie, and I tapped knuckles with Spatial's vice president of business development and strategy, who was standing in his own apartment 6 miles away.

### **The Future of Virtual Reality in Business | US Digital Partners**

URL: <https://www.usdigitalpartners.com/future-virtual-reality-business/>

Publisher: [usdigitalpartners.com](https://www.usdigitalpartners.com)

- The Future of Virtual Reality in Business
- Businesses in the home and DIY industries can take advantage of technologies like Google Tango that enables devices, like your smartphone or tablet, to detect their position relative to the world around them.
- Also referred to as hybrid reality, mixed reality augments the real world with virtual objects that aim to look as if they are really placed within that world.

### **Volvo Cars& Varjo - Design and safety development in mixed reality**

URL: [https://www.youtube.com/watch?v=tCv0hJGBo\\_I](https://www.youtube.com/watch?v=tCv0hJGBo_I)

Publisher: [youtube.com](https://www.youtube.com)

- Volvo Cars& Varjo-- Design and safety development in mixed reality

### **Topshop Virtual Reality Catwalk Experience| INITION**

URL: [https://www.inition.co.uk/case\\_study/virtual-reality-catwalk-show-topshop/](https://www.inition.co.uk/case_study/virtual-reality-catwalk-show-topshop/)

Publisher: [inition.co.uk](https://www.inition.co.uk)

- A 360 ° Virtual Experience of the Topshop Unique AW14 Catwalk Show
- Although there was some sophisticated technology powering the Topshop project, our main ambition was to create a memorable, immersive experience, so we were pleased to see the theme of the overwhelming volume of press coverage and individual feedback was all about how amazing it was to be able to step inside this coveted show.
- The virtual reality experience allowed people even more access than official show attendees sitting in the Turbine Hall-- we pulled in multiple media streams of the live environment including two streams of live HD from the front row and backstage.

### **The Augmented Showroom| design:retail**

URL: <https://www.designretailonline.com/projects/technology/the-augmented-showroom/>

Publisher: [designretailonline.com](https://www.designretailonline.com)

- Italian furniture retailer Natuzzi's latest store combines virtual and augmented reality, holographic displays and advanced 3-D interior design configurators
- Natuzzi worked with Microsoft and mixed-reality specialist Hevolus Innovation to develop the concept, and it plans to roll out the technology to further stores, with the objective to make the system available in every Natuzzi shop worldwide by the end of 2020.
- `` We let them walk their home, virtually showing our collection without boundaries.

### **The Natuzzi Augmented Store@ NRF New York | NATUZZI ITALIA**

URL: <https://www.natuzzi.us/news/the-natuzzi-augmented-store-nrf-new-york-1203.html>

Publisher: [natuzzi.us](https://www.natuzzi.us)

- The Natuzzi Augmented Store@ NRF New York
- other companies belonging to the Natuzzi Group

- If you are registered with the Natuzzi Community, we may communicate your Data to companies-- including foreign companies-- who manage the stores participating in the Natuzzi Community initiative, as well as to third parties where we are legally obliged to do so.

### **3M Releases Construction Safety Virtual Reality Programs for Hands-on Learning – Construction Junkie**

URL: <https://www.constructionjunkie.com/blog/2019/3/10/3m-releases-construction-safety-virtual-reality-programs-for-hands-on-learning>

- Publisher: constructionjunkie.com
- 3M Releases Construction Safety Virtual Reality Programs for Hands-on Learning
- Either way, there are some important safety precautions to take in case something goes wrong.

### **Walmart Files Patents For At-Home Virtual Reality Shopping**

URL: <https://www.forbes.com/sites/billhardekopf/2018/08/21/walmart-files-patents-for-at-home-virtual-reality-shopping/>

Publisher: forbes.com

- Walmart has filed two patents regarding virtual reality shopping.
- They could also send out the headsets and gloves for free, hoping to get their money back through increased sales.
- They describe a system in which users wear a VR headset and sensory gloves to get an in-store experience at home.

### **18 Healthcare Augmented Reality and Virtual Reality Companies to Watch**

URL: <https://hitconsultant.net/2020/06/29/augmented-reality-and-virtual-reality-companies-to-watch/>

Publisher: hitconsultant.net

- Another difference between VR and AR is that the latter arguably has a wider variety of possible applications in other industries, such as manufacturing.

### **Virtual Reality Market to Reach USD 120.5 Billion by 2026; Rising Usage in Healthcare& Education Sectors to Aid Growth: Fortune Business Insights™**

URL: <https://www.globenewswire.com/news-release/2020/05/15/2034035/0/en/Virtual-Reality-Market-to-Reach-USD-120-5-Billion-by-2026-Rising-Usage-in-Healthcare-Education-Sectors-to-Aid-Growth-Fortune-Business-Insights.html>

Publisher: globenewswire.com

- Pune, May 15, 2020-- The global VR market is anticipated to gain momentum from its rising applications in a wide range of industries, such as aerospace and defense, manufacturing, automotive, education, and healthcare.

### **How to Use Effectively Virtual Reality in Education?**

URL: <https://invisible.toys/virtual-reality-development/virtual-reality-in-education/>

Publisher: invisible.toys

- Possible fields of application include pharmaceutical industry, medicine, organic chemistry, biology and more-particularly everything related to molecular studies.

### **Virtual Reality Market Share, Growth| VR Industry Trends [2020-2027]**

URL: <https://www.fortunebusinessinsights.com/industry-reports/virtual-reality-market-101378>

Publisher: fortunebusinessinsights.com

- The rising application of virtual reality across industries such as healthcare, automotive, manufacturing, entertainment and more is driving the market.

### **How Augmented Reality Will Disrupt The Manufacturing Industry**

URL: <https://blog.thomasnet.com/augmented-reality-manufacturing>

Publisher: blog.thomasnet.com

- We're talking about the potential for students and novices to start a career in industrial maintenance and engineering early, while also getting hands-on experience along the way.

### **Virtual Reality Applications Drive the Future of Work| Toptal**

URL: <https://www.toptal.com/insights/future-of-work/virtual-reality-applications-future-work>

Publisher: toptal.com

- There are numerous virtual reality applications that could fundamentally shape a range of industries, from healthcare to manufacturing, journalism, and more.
- Following World War II, virtual reality applications expanded into the entertainment industry.

### **Top 9 Industries For Virtual Reality**

URL: <https://www.business.com/articles/top-vr-industries/>

Publisher: business.com

- It can be applied to many spheres and bring them benefit as well as joy and fun.

### **Development of Augmented Reality applications**

URL: <https://www.howden.com/en-us/whitepapers/development-of-augmented-reality-applications>

Publisher: howden.com

- Augmented Reality in industrial applications connects users across digital and physical worlds and coupled with rapid return on investment, easy adoption, and as a meaningful way to stand out from the competition, AR is quickly becoming increasingly common in the industrial world.

### **Industrial Augmented Reality Gaining Momentum**

URL: <https://www.iotworldtoday.com/2020/10/19/industrial-augmented-reality-promises-remote-support/>

Publisher: iotworldtoday.com

- The uses of AR in the industrial sector are set to expand as end users and vendors continue developing bespoke applications for the technology.
- The development and integration work many industrial AR applications require can be a significant hurdle as well.

### **Industrial applications for augmented reality**

URL: <https://www.carel.com/blog/-/blogs/industrial-applications-for-augmented-reality>

Publisher: carel.com

- Industrial applications for augmented reality

### **Application of virtual and augmented reality in automotive**

URL: <https://www.degruyter.com/view/journals/eng/10/1/article-p113.xml>

Publisher: degruyter.com

- Within the paper it will be described and analyzed ways of application of virtual and augmented reality in the field of storage logistics and processes of shipment picking.

### **Virtual reality applications in manufacturing industries: Past research, present findings, and future directions- SangSu Choi, Kiwook Jung, Sang Do Noh, 2015**

URL: <https://journals.sagepub.com/doi/full/10.1177/1063293X14568814>

Publisher: journals.sagepub.com

- Virtual reality applications in manufacturing industries
- SangSu Choi1 SangSu Choi Department of Systems Management Engineering, Sungkyunkwan University, Suwon, Republic of Korea See all articles by this author Search Google Scholar for this author, Kiwook Jung2 Kiwook Jung Department of Industrial& Management Engineering, Pohang University of Science and Technology, Pohang, Republic of Korea See all articles by this author Search Google Scholar for this author, Sang Do Noh1 Sang Do Noh Department of Systems Management Engineering, Sungkyunkwan University, Suwon, Republic of Korea See all articles by this author Search Google Scholar for this author

### **Anthos for Telecom puts Google Cloud partners apps at the edge**

URL: <https://cloud.google.com/blog/topics/anthos/anthos-for-telecom-puts-google-cloud-partners-apps-at-the-edge>

Publisher: cloud.google.com

- We're teaming up with popular industry application providers to deliver more than 200 partner applications at the edge, from 30-plus launch partners, on Google Cloud.
- Synamedia will bring its solutions supporting content providers and broadcasters in their transitions from satellite-based broadcasts to next-gen IP delivery to Google Cloud, helping customers handle more programming with less bandwidth while maintaining superior quality.

### **Applications Of Augmented And Virtual Reality In The Financial Industry**

URL: <https://arpost.co/2018/09/12/applications-of-augmented-and-virtual-reality-in-the-financial-industry/>

Publisher: arpost.co

- Applications Of Augmented And Virtual Reality In The Financial Industry

### **Virtual Reality Market by Offering, Technology, Device Type, Application**

URL: <https://www.marketsandmarkets.com/Market-Reports/reality-applications-market-458.html>

Publisher: marketsandmarkets.com

- The gaming industry is one of the most lucrative industries in this market in the consumer application.

### **Welding Robot Applications in Shipbuilding Industry: Off-Line Programming, Virtual Reality Simulation, and Open Architecture**

URL:

[https://www.intechopen.com/books/industrial\\_robotics\\_programming\\_simulation\\_and\\_applications/welding\\_robot\\_applications\\_in\\_shipbuilding\\_industry\\_\\_off-line\\_programming\\_\\_virtual\\_reality\\_simulatio](https://www.intechopen.com/books/industrial_robotics_programming_simulation_and_applications/welding_robot_applications_in_shipbuilding_industry__off-line_programming__virtual_reality_simulatio)

Publisher: intechopen.com

- Welding Robot Applications in Shipbuilding Industry

### **Augmented Reality Center- School of Engineering and Computer Science- Oakland University**

URL: <https://oakland.edu/secs/labs-and-centers/augmented-reality-center/>

Publisher: oakland.edu

- Industrial Applications
- A leading company in the industrial/manufacturing space that can benefit from the use of AR/VR based applications to transform their business and those of their customers worldwide.

### **Augmented Reality and its Industrial Applications | ARC Advisory**

URL: <https://www.arcweb.com/blog/augmented-reality-its-industrial-applications>

Publisher: arcweb.com

- You can watch it in entirety here and/or on YouTube.
- Different Applications for Industries

### **Applied Sciences**

URL: <https://www.mdpi.com/2076-3417/10/12/4259>

Publisher: mdpi.com

- The Application of Augmented Reality in the Automotive Industry
- where AR technology has been applied within the automotive industry, what is the purpose of its application, what are the general characteristics of these systems, and what are the emphasized benefits and challenges of using AR in this field?

### **4 Virtual Reality applications in the automotive industry**

URL: [https://medium.com/@info\\_35021/4-virtual-reality-applications-in-the-automotive-industry-f5fe89cc524c](https://medium.com/@info_35021/4-virtual-reality-applications-in-the-automotive-industry-f5fe89cc524c)

Publisher: medium.com

- 4 Virtual Reality applications in the automotive industry

### **Industrial applications of virtual reality environments and augmented reality**

URL:

[https://www.researchgate.net/publication/264416619\\_Industrial\\_applications\\_of\\_virtual\\_reality\\_environments\\_and\\_augmented\\_reality](https://www.researchgate.net/publication/264416619_Industrial_applications_of_virtual_reality_environments_and_augmented_reality)

Publisher: researchgate.net

- Industrial applications of virtual reality environments and augmented reality
- In the same way, industrial applications of these technologies were studied, being proven useful in most product development stages and later life cycle phases.
- Results of this research on Virtual Reality are really applied on automotive and aeronautic industry, where currently VR is successfully used for design and assembly review tasks.

### **Virtual reality continues to grow – but supply of workers is limited**

URL: <https://www.cnbc.com/2017/12/08/virtual-reality-continues-to-grow--but-supply-of-workers-is-limited.html>

Publisher: cnbc.com

- "The VR and AR industry is really young, and so there's a great potential for new applications that need to be built by content creators," he said.

## **Top 7 Augmented Reality Trends for 2021**

URL: <https://www.vxchnge.com/blog/augmented-reality-statistics>

Publisher: vxchnge.com

- Augmented reality applications are already being put to use in a number of industries.

## **Yes, Virtual Reality Now- Robotics News**

URL: [https://www.robotics.org/content-detail.cfm/Industrial-Robotics-News/Yes-Virtual-Reality-Now-Works-With-Offline-Programming/content\\_id/8298](https://www.robotics.org/content-detail.cfm/Industrial-Robotics-News/Yes-Virtual-Reality-Now-Works-With-Offline-Programming/content_id/8298)

Publisher: robotics.org

- Industrial VR has been making waves in various industries for a few years now and the benefits are perhaps even more important than in consumer applications.
- Sure, the industrial applications of VR might not seem as fun or flashy as the consumer applications.

## **Augmented and virtual reality applications in industrial systems: A qualitative review towards the industry 4.0 era- ScienceDirect**

URL: <https://www.sciencedirect.com/science/article/pii/S2405896318315131>

Publisher: sciencedirect.com

- Augmented and virtual reality applications in industrial systems

## **ESI Launches IC.IDO 10.2, New Version of its Virtual Reality Solution For Industrial Applications**

URL: <https://www.esi-group.com/company/news/esi-launches-ic-ido-10-2-new-version-of-its-virtual-reality-solution-for-industrial-applications>

Publisher: esi-group.com

- If Virtual Reality has been a popular technology in the business of video games for several decades, its use for industrial applications only dates back to the late 2000s.

## **Virtual Reality for Industrial Applications| Fan Dai | Springer**

URL: <https://www.springer.com/gp/book/9783642468490>

Publisher: springer.com

- We have a dedicated site for USA
- VR-Techniques for Industrial Applications

## **Digital Twin for Industry 4.0| Frontiers Research Topic**

URL: <https://www.frontiersin.org/research-topics/16400/digital-twin-for-industry-40>

Publisher: frontiersin.org

- Industrial applications of Virtual Reality are transforming the way new products are designed, bringing new possibilities.
- Digital Twin using VR is considered a valuable tool for improving and accelerating product and process development in many industrial applications.
- Overall, the application of VR to the domain of industry is relevant since it greatly improves the communication in product design and production development.

## **Augmented and virtual reality: The promise and peril of immersive technologies**

URL: <https://www.mckinsey.com/industries/technology-media-and-telecommunications/our-insights/augmented-and-virtual-reality-the-promise-and-peril-of-immersive-technologies>

Publisher: mckinsey.com

- The strongest demand for the technologies currently comes from industries in the creative economy-specifically, gaming, live events, video entertainment and retail-but will find wider applications in industries as diverse as healthcare, education, the military and real estate over time.

### **Augmented& Virtual Reality Manufacturing& Industrial**

URL: <https://eonreality.com/use-cases/augmented-virtual-reality-manufacturing/>

Publisher: eonreality.com

- Virtual reality industrial application for Rio Tinto's experiential knowledge worker solution designed to improve safety and productivity.

### **Augmented Reality, Virtual Reality Converge With Robotics**

URL: <https://www.roboticsbusinessreview.com/ai/augmented-reality-vr-converge-robotics/>

Publisher: roboticsbusinessreview.com

- As the robotics industry continues to grow year after year, applications of robotic technology are being paired with a number of other innovative technologies causing a buzz in the world today.

### **9 Applications of AR& VR in the Financial Industry**

URL: <https://www.tjip.com/en/publications/9-applications-of-ar-vr-in-the-financial-industry>

Publisher: tjip.com

- 9 Applications of AR& VR in the Financial Industry
- 9 Applications in the Financial Industry

### **The many use cases of virtual and augmented reality in Industry 4.0**

URL: <https://www.i-scoop.eu/industry-40-virtual-reality-vr-augmented-reality-ar-trends/>

Publisher: i-scoop.eu

- Again, the number of applications for VR/AR is very broad and manufacturing, transportation, logistics and other markets in today's current 4.0 scope are far from the only ones.

### **7 Uses in 2020 for Augmented Reality in Construction**

URL: <https://esub.com/blog/7-uses-in-2020-for-augmented-reality-in-construction/>

Publisher: esub.com

- There are several applications that augmented reality has to offer in the construction industry but seven uses bubbled to the top of this list.

### **An Industry Case Study: Investigating Early Design Decision Making in Virtual Reality**

URL:

<https://asmedigitalcollection.asme.org/computingengineering/article/17/1/011001/472843/An-Industry-Case-Study-Investigating-Early-Design>

Publisher: asmedigitalcollection.asme.org

- The authors described a large gap between simple proof-of-concept applications and those that are fully capable of contributing to decision making in industry.

### **8 Key Takeaways from Developers on the Virtual Reality Industry Today- VIVE Blog**

URL: <https://blog.vive.com/us/2019/04/24/8-key-takeaways-developers-virtual-reality-industry-today/>



Publisher: [blog.vive.com](https://blog.vive.com)

- Understanding how developers are thinking about the VR industry, applications and the future of VR is important as the space continues to grow and application trends emerge.

### **Virtual Reality Applications for Industry – Case Studies**

URL: <https://www.linkedin.com/pulse/virtual-reality-applications-industry-case-studies-mateusz-tokarski>

Publisher: [linkedin.com](https://www.linkedin.com)

- Virtual Reality Applications for Industry

### **How Virtual Reality(VR) is Transforming the Travel Industry**

URL: <https://www.revfine.com/virtual-reality-travel-industry/>

Publisher: [revfine.com](https://www.revfine.com)

- VR Applications in the Travel Industry
- Below, you find some of the main applications that have been observed within hospitality businesses to date.

### **Augmented Reality For Industrial Applications In 2021**

URL: <https://kiber.tech/augmented-reality-industrial-applications-2021/>

Publisher: [kiber.tech](https://kiber.tech)

- It has been used for many different applications, but right now we are recording an increasing interest in augmented reality for industrial applications in 2021.
- To improve your industrial niche and business with augmented reality, you'll need the proper equipment.
- The solution coming from augmented reality for industrial applications in that case may be for example the superimposition of any information needed in that very moment on the screen-view of the user.

### **How Spatial on Oculus Quest is transforming Zoom with VR and AR technology- Vox**

URL: <https://www.vox.com/recode/2020/9/15/21434946/augmented-reality-future-remote-work-spatial-zoom-calls-feel-like-real-life>

Publisher: [vox.com](https://www.vox.com)

- The HoloLens is designed for industrial applications



# ADDITIONAL ARTICLES: RECREATION

*The full set of articles discovered by Gyan based on your research question can be found in this section.*

## **Impact of the recreational use of virtual reality on physical and mental wellbeing during the Covid-19 lockdown**

URL: <https://link.springer.com/article/10.1007/s12553-021-00528-8>

Publisher: [link.springer.com](https://link.springer.com)

- Impact of the recreational use of virtual reality on physical and mental wellbeing during the Covid-19 lockdown
- An online survey was carried out to investigate the recreational use of VR during the lockdown period and to gather users' opinions on its impact on their physical and mental health.
- Towards that purpose, an online survey was carried out with the primary objective to investigate the recreational use of VR and gather the participants' opinion on its impact on their mental and physical wellbeing.

## **15 health and wellness use cases for virtual reality | MobiHealthNews**

URL: <https://www.mobihealthnews.com/content/15-health-and-wellness-use-cases-virtual-reality>

Publisher: [mobihealthnews.com](https://www.mobihealthnews.com)

- Through realistic simulations of human tissue dynamics, endoscopic device optics and moving fluids to recreate life-like surgeries, doctors who need to practice surgical techniques can do so in a way that doesn't run the risk of harming anyone, even though mistakes in the game can end up a bit shocking

## **This Oculus Quest fitness app worked me so hard I forgot to breathe- CNET**

URL: <https://www.cnet.com/news/supernatural-vr-fitness-mashup-of-pelaton-and-beat-saber-oculus-quest/>

Publisher: [cnet.com](https://www.cnet.com)

- They wanted to recreate the fun exertion of outdoor activities but remove the hangups that keep you from exercising all the time.

## **Virtual Reality recreation of Georgian pleasure garden – University of Leicester**

URL: <https://www2.le.ac.uk/staff/announcements/virtual-reality-recreation-of-georgian-pleasure-garden>

Publisher: [www2.le.ac.uk](https://www2.le.ac.uk)

- Virtual Reality recreation of Georgian pleasure garden

## **15 health and wellness use cases for virtual reality - Immersive Learning News**

URL: <https://www.immersivelearning.news/2018/06/18/15-health-and-wellness-use-cases-for-virtual-reality/>

Publisher: [immersivelearning.news](https://immersivelearning.news)

- Through realistic simulations of human tissue dynamics, endoscopic device optics and moving fluids to recreate life-like surgeries, doctors who need to practice surgical techniques can do so in a way that doesn't run the risk of harming anyone, even though mistakes in the game can end up a bit shocking.

### **How the Virtual SXSW 2021 Impacts Austin Bars and Live Venues- Eater Austin**

URL: <https://austin.eater.com/2021/3/17/22334713/sxsw-2021-virtual-impact-bars-live-music-impact>

Publisher: [austin.eater.com](https://austin.eater.com)

- The virtual recreations of the rooftop space of Congress Avenue museum the Contemporary and East Seventh venue Empire Control Room for SXSW

### **ChargerREC Takes Fitness and Recreation into the Virtual World- University of New Haven**

URL: <https://www.newhaven.edu/news/blog/2020/virtual-charger-rec.php>

Publisher: [newhaven.edu](https://www.newhaven.edu)

- In addition to virtual fitness and wellness, ChargerREC is expanding its recreation offerings to include video game ladder tournaments, esports tournaments, and virtual viewing parties for popular shows such as "Better Call Saul."

### **Virtual Reality for Therapeutic Recreation in Dementia Hospice Care: A Feasibility Study- PubMed**

URL: <https://pubmed.ncbi.nlm.nih.gov/31975609/>

Publisher: [pubmed.ncbi.nlm.nih.gov](https://pubmed.ncbi.nlm.nih.gov)

- Virtual Reality for Therapeutic Recreation in Dementia Hospice Care
- To explore acceptability, tolerability, and subjective experience of virtual reality as therapeutic recreation for hospice patients living with dementia.

### **Benefits of VR for Seniors | Aged Care Virtual Reality**

URL: <http://www.agedcarevirtualreality.com/virtual-reality-in-therapeutic-recreation/>

Publisher: [agedcarevirtualreality.com](http://www.agedcarevirtualreality.com)

- Those experiencing compromised mobility or those who for any reason can not interact with the outside world can not fully partake in this therapeutic recreation.
- By providing a large demographic with the resources to partake in recreational therapy without needing the physical ability usually required to participate in hands on activities, VR removes the barriers preventing many elderly people from participating in therapeutic recreational activities.

### **Recreation Center Virtual Reality Entertainment | SFA**

URL: <https://sportadvisory.com/vr-gaming-recreation-centers/>

Publisher: [sportadvisory.com](https://sportadvisory.com)

- Virtual reality is still a fairly new experience to many people, and offering it as a form of recreation is an effective way to put you ahead of your competition.

### **Someone Built An Extremely Accurate Recreation Of Their Apartment In VR**

URL: <https://kotaku.com/someone-built-an-extremely-accurate-recreation-of-their-1841096337>

Publisher: kotaku.com

- Someone Built An Extremely Accurate Recreation Of Their Apartment In VR

### **Health System News Recreation therapy moves into a virtual reality**

URL: <https://www.oha.com/news/recreation-therapy-moves-into-a-virtual-reality>

Publisher: oha.com

- Health System News Recreation therapy moves into a virtual reality
- As restrictions in Ontario begin to loosen, Recreation Therapy has been moving their attention to reinstating some favourite programs with help from patients and volunteers-- albeit looking a bit different.
- A crucial aspect of recreation therapy is enhancing patient care by providing specific therapies that assist with cognitive, mental, and physical health.

### **Nature Lab- Recreation of a 19th century experiment inside a 3D virtual reality theatre**

URL: <https://naturelab.risd.edu/discover/recreation-of-a-19th-century-experiment-inside-a-3d-virtual-reality-theatre/>

Publisher: naturelab.risd.edu

- Recreation of a 19th century experiment inside a 3D virtual reality theatre
- For her honors thesis project, Beatrice Steinert set out to recreate a 19th century experiment by the embryologist Edwin Grant Conklin, to collect, study, and sketch the embryonic developmental stages of *Crepidula fornicata*, commonly known as the slipper snail.

### **3D Scans Will Allow Historic Building Slated For Demolition To Be Rebuilt In Virtual Reality**

URL: <https://www.wpr.org/3d-scans-will-allow-historic-building-slanted-demolition-be-rebuilt-virtual-reality>

Publisher: wpr.org

- A historic mansion in Merrill that's set to be demolished will be preserved, in a way, with detailed digital scans that will allow it to be recreated in virtual reality.
- It's information that can be used for everything from an educational display in VR to detailed and precise physical recreation of the building's stonework or other architectural elements.
- All that data will be digitally assembled into a complex recreation of the building.

### **AR Recreation of Apollo 11 Mission in Celebration of 50th Anniversary of Moon Landing**

URL: <https://blog.edx.org/ar-recreation-apollo-11-mission-celebration-50th-anniversary-moon-landing>

Publisher: blog.edx.org

- AR Recreation of Apollo 11 Mission in Celebration of 50th Anniversary of Moon Landing
- JFK Moonshot immerses users in the 1969 Apollo 11 mission with a first-ever full-scale recreation of the 363-ft Saturn V Rocket which can be viewed in the app.

### **Uncharted Realities: Home**

URL: <https://www.unchartedrealities.com/>

Publisher: [unchartedrealities.com](https://www.unchartedrealities.com/)

- Uncharted Realities provides a wide range of virtual reality recreation for ages 8 years and up.

### **Four Ways Virtual Reality Bolsters Campus Recreation Design- Campus Rec Magazine**

URL: <https://campusrecmag.com/four-ways-virtual-reality-bolsters-campus-recreation-design/>

Publisher: [campusrecmag.com](https://campusrecmag.com/)

- Four Ways Virtual Reality Bolsters Campus Recreation Design
- When used the right way, VR can absolutely enhance the ability to create campus recreation centers that offer the best opportunities and experiences for students and staff.
- Imagine being unsure about where to place an indoor jogging track in the new recreation center or whether to use an area for a climbing wall or additional multi-activity space.

### **(PDF) Recreation of history using augmented reality**

URL:

[https://www.researchgate.net/publication/324110139\\_Recreation\\_of\\_history\\_using\\_augmented\\_reality](https://www.researchgate.net/publication/324110139_Recreation_of_history_using_augmented_reality)

Publisher: [researchgate.net](https://www.researchgate.net/)

- This paper describes about usage of AR in historical recreation as well as it elaborates previous work that has been done in this area and gives knowledge about technologies that allows creating application for AR oriented historical site.

### **8 amazing uses of VR that will blow your mind| Creative Bloq**

URL: <https://www.creativebloq.com/features/8-amazing-uses-of-vr-that-will-blow-your-mind>

Publisher: [creativebloq.com](https://www.creativebloq.com/)

- We like to think that surrealist painter Salvador Dali would have loved this.
- Washington's Renwick Gallery recently released a VR recreation of its sculpture show Wonder, and we're expecting more artists and art institutions to jump on board and explore the possibilities of VR.
- And it's not just classic paintings that are being recreated in virtual space.

### **Virtual Rec Center| Department of Recreation& Parks**

URL: <http://bcrp.baltimorecity.gov/virtual-rec>

Publisher: [bcrp.baltimorecity.gov](http://bcrp.baltimorecity.gov/)

- Virtual Rec Center

### **Virtual Reality for Therapeutic Recreation in Dementia Hospice Care: A Feasibility Study- Claire Ferguson, Marcia Y. Shade, Julie Blaskewicz Boron, Elizabeth Lyden, Natalie A. Manley, 2020**

URL: <https://journals.sagepub.com/doi/full/10.1177/1049909120901525>

Publisher: journals.sagepub.com

- Virtual Reality for Therapeutic Recreation in Dementia Hospice Care
- To explore acceptability, tolerability, and subjective experience of virtual reality as therapeutic recreation for hospice patients living with dementia.

### **Virtual Recreation| Hialeah, FL**

URL: <http://www.hialeahfl.gov/895/Virtual-Recreation>

Publisher: hialeahfl.gov

- Pictures that define what parks OR recreation means to you.
- Pictures of you enjoying one of our Virtual Recreation activities.

### **5 Therapeutic Ways to Use Virtual Reality| HowStuffWorks**

URL: <https://electronics.howstuffworks.com/future-tech/5-therapeutic-ways-use-virtual-reality.htm>

Publisher: electronics.howstuffworks.com

- It's awesome for recreation, cool for communication.

### **Virtual Reality Environment Recreation by Ryan Douglas**

URL: [https://ideaexchange.uakron.edu/honors\\_research\\_projects/1028/](https://ideaexchange.uakron.edu/honors_research_projects/1028/)

Publisher: ideaexchange.uakron.edu

- "Virtual Reality Environment Recreation" by Ryan Douglas
- This project will consist of a virtual reality based program that is capable of showing the user both the modern day state of a site of historic or archaeological significance, along with a recreation of what said site or area may have looked like in the past, primarily during the time that gave the site its historical significance.

### **Virtual Omaha: A D-Day Recreation// Purdue College of Liberal Arts**

URL: <https://www.cla.purdue.edu/research/forces-initiative/research-outreach/project-dday.html>

Publisher: cla.purdue.edu

- Konkoly has used historical resources, mentoring by FORCES staff, and his own considerable talents to recreate the Channel coast as it looked on the eve of the invasion.

### **Virtual Recreation | City of West Sacramento**

URL: <https://www.cityofwestsacramento.org/government/departments/parks-recreation/virtual-recreation>

Publisher: cityofwestsacramento.org

- The West Sacramento Recreation Center is OPEN!
- To minimize the spread of infection, The Center for Disease Control recommends that individuals maintain six feet or more from other people and regularly disinfect all common surfaces and that children wear masks when on the playground.

### **Virtual Recreation Center | City of San Jose**

URL: <https://www.sanjoseca.gov/your-government/departments-offices/parks-recreation-neighborhood-services/virtual-recreation-center>

Publisher: sanjoseca.gov

- If you have any ideas on classes, activities or resources to include in the Virtual Recreation Center, fill out the Virtual Recreation Center Idea Suggestion Form.

### **Oliver Pavicevic makes a virtual reality recreation of a memorable train ride**

URL: <https://www.itsnicethat.com/articles/oliver-pavicevic-virtual-reality-train-ride-digital-280120>

Publisher: itsnicethat.com

- Oliver Pavicevic makes a virtual reality recreation of a memorable train ride

### **Virtual Recreation Center**

URL: <https://www.sdparks.org/content/sdparks/en/participate/VirtualRecreationCenter.html>

Publisher: sdparks.org

- This is your one-stop-shop for tips, tricks and tales to help you pass the downtime caused by school closures, quarantines and other COVID-19-related County advisories.

### **New Tate store provides virtual reality recreation of artist's studio**

URL: <https://www.conference-news.co.uk/news/new-tate-store-provides-virtual-reality-recreation-artists-studio>

Publisher: conference-news.co.uk

- New Tate store provides virtual reality recreation of artist's studio
- One part of the store will feature a virtual reality recreation of Modigliani's studio, transporting guests back to Paris in the early 1900s.

### **Intelligent recreation agents in a virtual GIS world – University of Arizona**

URL: <https://arizona.pure.elsevier.com/en/publications/intelligent-recreation-agents-in-a-virtual-gis-world>

Publisher: arizona.pure.elsevier.com

- Intelligent recreation agents in a virtual GIS world
- By simulating the behavior of different agents in a virtual environment as described by GIS, it is possible to manipulate the number and type of agents, and characteristics of the environment to study the dynamic relationships between the two systems.
- This provides park managers with an insight into the probable effects of a given management scenario on user flows and satisfaction.

### **CNN, CNA dive deep with virtual cave recreation- NewscastStudio**

URL: <https://www.newscaststudio.com/2018/07/06/cnn-cave-virtual-reality/>

Publisher: newscaststudio.com

- The segment, which aired Tuesday, July 3, 2018, during "Erin Burnett OutFront," featured Foreman in a virtual space that allowed him to walk "on top" of 3D recreation of the mountainside that contains the caves.

### **Rec@ Home| Dallas Parks, TX- Official Website**

URL: <https://www.dallasparks.org/544/Rec-Home>

Publisher: dallasparks.org

- The Virtual Recreation Camp will begin on Monday, June 21st and operate th

### **Midlands pupils first to see virtual reality recreation of Lunt Fort in Roman times**

URL: [https://warwick.ac.uk/newsandevents/pressreleases/midlands\\_pupils\\_first/](https://warwick.ac.uk/newsandevents/pressreleases/midlands_pupils_first/)

Publisher: warwick.ac.uk

- Midlands pupils first to see virtual reality recreation of Lunt Fort in Roman times
- and then to immediately after that visit the University of Warwick to be the first members of the public to see the 3D Virtual Reality recreation of the original Fort.

### **Hong Kong inquest avoids Covid-19 curbs with virtual reality recreation of site where student Alex Chow suffered fatal injuries**

URL: <https://www.scmp.com/news/hong-kong/law-and-crime/article/3114564/hong-kong-inquest-avoids-covid-19-curbs-virtual>

Publisher: scmp.com

- Hong Kong inquest avoids Covid-19 curbs with virtual reality recreation of site where student Alex Chow suffered fatal injuries

### **Reincarnation**

URL: <https://dl.acm.org/doi/abs/10.1145/3306449.3328820>

Publisher: dl.acm.org

- virtual reality recreation of Yves Tanguy's world

### **ANE TODAY- 201602- Nimrud Rising: An Immersive Virtual Reality Recreation of a Lost Site- American Society of Overseas Research(ASOR)**

URL: <https://www.asor.org/anetoday/2016/02/nimrud-rising-an-immersive-virtual-reality-recreation-of-a-lost-site/>

Publisher: asor.org

- An Immersive Virtual Reality Recreation of a Lost Site

### **Mother Meets Recreation of Her Deceased Child in VR - Road to VR**

URL: <https://www.roadtovr.com/mother-meets-recreation-of-deceased-child-in-vr/>

Publisher: roadtovr.com

- Mother Meets Recreation of Her Deceased Child in VR-- Road to VR
- When people start talking to shit out of thing air, much less a 3D recreation-- you're fucking crazy.
- There is a lot of money in this and in a couple of years game engines will have the tools to very easily recreate a VR likeness of a human being that wo n't require such extensive work as full body scans, modelling and texturing.

### **Rec facility featuring bowling, virtual reality area may be built in Aurora- Chicago Tribune**

URL: <https://www.chicagotribune.com/suburbs/aurora-beacon-news/ct-abn-aurora-recreation-st-0419-story.html>

Publisher: chicagotribune.com

- Aurora officials are excited about a proposed 34,000-square-foot recreation center planned for the vacant former Hobby Lobby building at West Aurora Plaza shopping center that could include a bowling alley and virtual reality area.



- Aldermen are set to vote on a special use for the property at 1971 W. Galena Blvd. that would allow the recreational use in the otherwise retail business area.

### **BP Virtual Recreation- City of Buena Park, CA**

URL: <http://www.buenapark.com/city-departments/community-services/bp-virtual-recreation>

Publisher: buenapark.com

- Please note, the City does not endorse, collect payment on behalf of, or receive funds to advertise any of the third-party sites or services listed or referenced on these pages.

### **Learning to Sail... on Land: Virtual Reality Sailing Simulation for People with Physical Disabilities - World Leisure Organization**

URL: <https://www.worldleisure.org/learning-to-sail-on-land-virtual-reality-sailing-simulation-for-people-with-physical-disabilities/>

Publisher: worldleisure.org

- East Carolina University houses a Simulation Lab in the Department of Recreation Sciences.
- The purpose of the lab is to use virtual reality sailing simulators as an intervention for people with disabilities to increase their quality of life physically, emotionally, cognitively, and socially and to produce evidence through research in the field of recreational therapy.
- The purpose of the lab is to use VRSS as an intervention for people with disabilities to increase their quality of life physically, emotionally, cognitively, and socially and to produce evidence through research in the field of recreational therapy.

### **VIRTUAL RECREATION CENTER| City of Covina California**

URL: <https://covina.ca.gov/parksrec/page/virtual-recreation-center>

Publisher: covinaca.gov

- Welcome to the City of Covina's Virtual Recreation and Resource Center!

### **CNN virtual cave recreation// Vizrt**

URL: <https://www.vizrt.com/en/broadcasting/news-articles/cnn-cna-dive-with-virtual-cave-recreation>

Publisher: vizrt.com

- CNN virtual cave recreation// Vizrt

### **Bringing The Outdoors Indoors: Immersive Experiences of Recreation in Nature and Coastal Environments in Residential Care Homes**

URL: <https://journals.tdl.org/ertr/index.php/ertr/article/view/555>

Publisher: journals.tdl.org

- We identify the ways in which virtual mobility can facilitate reconnection with recreational environments.
- Secondly, the combination of the hardware of the VR and MSSE technology with the physical objects of the sensory trays created alternative, multisensual ways of engaging with the experiences presented to participants.
- Her research interests focus on the visual and multisensory experiences in tourism, immersive technologies in tourism, and socio-cultural sustainability in tourism.



### **Reincarnation | Virtual Reality Recreation of Yves Tanguy's World**

URL: <https://www.theuniqueeye.com/reincarnation>

Publisher: theuniqueeye.com

- Virtual Reality Recreation of Yves Tanguy's World

### **Recreation Department| Westview Health Care Center**

URL: <https://westviewhcc.com/recreation.html>

Publisher: westviewhcc.com

- Our Recreation Department is committed to providing a wide variety of interactive, educational and enjoyable activities to fulfill our residents' and patient's physical and psycho-social needs.
- With weekly live events and multiple daily activities to choose from, we are committed to quality entertainment, engaging activities and therapeutic socialization.
- Recreational Activities= Good Health!

### **Virtual Resources| Campus Recreation**

URL: <https://campusrecreation.temple.edu/virtual-resources>

Publisher: campusrecreation.temple.edu

- The Campus Recreation department has assembled a team to try to bring you resources and content in our new virtual reality.
- We have compiled a list of online resources to help you through these challenging times.

### **Virtual Recreation- Jurupa Area Recreation and Park District**

URL: <https://www.jarpd.org/virtual-recreation>

Publisher: jarpd.org

- Virtual Recreation

### **SportsAbility**

URL: <https://www.fdoa.org/sportsability>

Publisher: fdoa.org

- SportsAbility Park will be available year round and 24 hours, 7 days a week, but
- we will be hosting some special events in the virtual park during our SportsAbility event.
- To access the SportsAbility VR Park, you will need to install the Altspace VR software on your virtual reality headset or on a compatible computer.

### **Virtual Recreation - Lake Worth Beach**

URL: <https://lakeworthbeachfl.gov/recreation/virtual-recreation/>

Publisher: lakeworthbeachfl.gov

- In these challenging times, our Virtual Recreation Center will bring programs and resources to you and your family with the hope of making it easier for you to prioritize your health and well-being.

## **Virtual Recreation**

URL: <https://www.scparks.com/Home/RecreationPrograms/VirtualRecreation.aspx>

Publisher: scparks.com

- We at County Parks are committed to ensuring that our community has access to resources to maintain healthy lives, grow meaningful relationships, and continue to have extraordinary experiences.

## **STAY IN& PLAY Virtual Rec Center**

URL: <https://pleasanthillrec.com/564/STAY-IN-PLAY-Virtual-Rec-Center>

Publisher: pleasanthillrec.com

- Our Virtual Rec Center is your one-stop online recreation resource to inspire you to stay active, keep connected, learn something new, and most of all, to play!

## **IPL 2020: SunRisers Hyderabad's Swanky Recreation Room Boasts Virtual Reality, PlayStations**

URL: <https://sports.ndtv.com/ipl-2020/sunrisers-hyderabad-s-swanky-recreation-room-boasts-virtual-reality-playstations-2295855>

Publisher: sports.ndtv.com

- SunRisers Hyderabad's Swanky Recreation Room Boasts Virtual Reality, PlayStations
- Taking to Instagram, the club posted a video and captioned it as, "Welcome to our team room Where friends become rivals but eventually become family SRH recreation room powered by@tcl\_india!"
- SunRisers Hyderabad shared a video of their fancy recreation room in UAE

## **Education and Virtual Reality- How Are Schools Using VR today?**

URL: <https://www.viar360.com/education-schools-using-virtual-reality/>

Publisher: viar360.com

- Gaelscoil Eoghain Ui Thuairisc school in Carlow, Ireland is recreating historic sites with Mission V 3D modeling software.

## **VR in Education- Educational Uses of Virtual Reality Technology- ServReality**

URL: <https://servreality.com/blog/vr-in-education-whats-on/>

Publisher: servreality.com

- Archaeologists use VR to recreate lost architectural masterpieces of antiquity.

## **9 industries using virtual reality- TechRepublic**

URL: <https://www.techrepublic.com/article/9-industries-using-virtual-reality/>

Publisher: techrepublic.com

- In Ireland, a school in the town of Broughal used OpenSim to recreate Clonmacnoise, which is the ruins of an old monastery, surrounded by a cemetery.

### **How Virtual Reality(VR) can Enrich the Hospitality Industry**

URL: <https://www.revfine.com/virtual-reality-hospitality-industry/>

Publisher: revfine.com

- For example, this potentially allows customers to experience a virtual recreation of a room within a hotel, or take a look at one of the nearby attractions.
- Through this, users can experience a virtual recreation of different aspects of travel, from the flight, to arrival, to some of the key sights.

### **How AR Is Redefining Retail in the Pandemic**

URL: <https://hbr.org/2020/10/how-ar-is-redefining-retail-in-the-pandemic>

Publisher: hbr.org

- The app launched in April as a way to recreate some of the social experiences people miss and have been craving amid the pandemic.

### **Virtual Reality Market Share& Trends Report, 2021-2028**

URL: <https://www.grandviewresearch.com/industry-analysis/virtual-reality-vr-market>

Publisher: grandviewresearch.com

- The semi& fully immersive technology moderately or completely recreates real-world environments' design into a digital platform and requires high-resolution displays, hard simulators, and high processing PCs to experience the immersion technology.

### **Immersive virtual reality as a pedagogical tool in education: a systematic literature review of quantitative learning outcomes and experimental design**

URL: <https://link.springer.com/article/10.1007/s40692-020-00169-2>

Publisher: link.springer.com

- Simulations attempt to recreate a real-world environment that can help facilitate learning by allowing for the testing of variables and resulting outcomes.

### **Four Seasons Resort Oahu at Ko Olina and Sensync Partner to Introduce the World's First Multi-Sensory Virtual Reality Wellness Experience: The Vessel, Featuring Deep Brain Massage**

URL: <https://press.fourseasons.com/oahu/hotel-news/2019/the-vessel-immersive-sensory-experience/>

Publisher: press.fourseasons.com

- Four Seasons Resort Oahu at Ko Olina and Sensync Partner to Introduce the World's First Multi-Sensory Virtual Reality Wellness Experience
- In the Vessel guests see, hear, smell, feel, and touch sensations of nature, presented in unison, leveraging the power of sensory synchronisation to create immersive nature experiences personalised in real-time by recordings of the guest's physiology, yielding a first-of-its-kind, closed-loop experience.

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Publisher: [press.fourseasons.com](https://press.fourseasons.com)

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### **Exploring Florida Attractions and Recreation VRs**

URL: <https://fcit.usf.edu/florida/vr/attractions/attractions.htm>

Publisher: [fcit.usf.edu](https://fcit.usf.edu)

- The black and white VRs are approximately 180 degree views.

### **Augmented reality and the future of recreation- RED- Relevant. Essential. Denver.**

URL: <https://red.msudenver.edu/2018/augmented-reality-and-the-future-of-recreation.html>

Publisher: [red.msudenver.edu](https://red.msudenver.edu)

- It's called augmented reality climbing, and it's part video game and part extreme sport.
- All you need to participate is a laptop, a projector and an internet connection-- or a Campus Recreation membership at Metropolitan State University of Denver, which hosted its second-ever AR climbing intramural event Oct. 17 in the PE/Event Center, open to anyone in the community with a Campus Rec membership.
- RideOn is a maker of AR ski goggles that show real-time speed, temperature and slope mapping in a heads-up display to warn skiers of upcoming dangers.

### **City of St. Petersburg Parks and Recreation- DHHC**

URL: <https://dhhc.lib.usf.edu/virtual-tours/city-of-st-petersburg-parks-and-recreation/>

Publisher: [dhhc.lib.usf.edu](https://dhhc.lib.usf.edu)

- Virtual tours featuring archaeological and historical sites in the City's parks are available, along with immersive 3D models of artifacts and other features.
- The tours and the annotated artifacts are all viewable on your computer or mobile device, and you can also use Virtual Reality tools to have more up-close exploration.

### **After huge growth in 2020, Seattle startup Rec Room raises\$20M to expand virtual hangout game- GeekWire**

URL: <https://www.geekwire.com/2020/huge-growth-2020-seattle-startup-rec-room-raises-10m-expand-virtual-hangout-game/>

Publisher: [geekwire.com](https://www.geekwire.com)

- While Rec Room still reportedly draws the bulk of its users from the VR community, its expansion dramatically accelerated following its debut on the Xbox on Dec. 3.

### **Rome Reborn: Home**

URL: <https://www.romereborn.org/>

Publisher: romereborn.org

- On June 21, 2018 Karl Galinsky, Floyd A. Cailloux Centennial Professor and University Distinguished Teaching Professor at the University of Texas, Austin, tested Rome Reborn<sup>®</sup> VR.
- The Rome Reborn<sup>®</sup> VR project, in development since 1997, consists of a digital reconstruction of the ancient city of Rome within the Aurelian walls, as it appeared in 320 AD.
- The current version of the model is 3.0, optimized for use in real time through augmented virtual reality.

### **VR and 'Rec Room' Are Changing the Way We Socialize**

URL: <https://virtualrealitypop.com/vr-and-rec-room-are-changing-the-way-we-socialize-55f6d1a7bd71>

Publisher: virtualrealitypop.com

- VR and 'Rec Room' Are Changing the Way We Socialize

### **Augmented Reality on the Playground**

URL: <https://www.nrpa.org/parks-recreation-magazine/2019/july/augmented-reality-on-the-playground/>

Publisher: nrpa.org

- Augmented Reality on the Playground
- What Is Augmented Reality?
- Recently published work demonstrated that mobile AR playground experiences can lead to positive outcomes with regard to heart rate and MVPA, but more field work is needed to verify whether and how these play apps are making a difference in the type of activity and the amount of time children spend outdoors.

### **Virtual reality Holocaust: WW2 survivor'impressed' by recreation- BBC News**

URL: <https://www.bbc.com/news/uk-england-nottinghamshire-51021274>

Publisher: bbc.com

- The VR imagery is based on a photograph from the Warsaw Ghetto
- It is part of the Eye As Witness
- "The VR is an invitation to contemplate what choices the photographer made, what might have been left out."

## **Virtual reality battlefield technology designed to train military leaders- Purdue University News**

URL: <https://www.purdue.edu/newsroom/releases/2020/Q4/virtual-reality-battlefield-technology-designed-to-train-military-leaders.html>

Publisher: [purdue.edu](https://www.purdue.edu)

- Virtual reality battlefield technology designed to train military leaders
- "I'm most excited about the project's potential: to turn the clock back, yet display a famous battle in a technologically leading-edge fashion in order to bring military history alive to a new generation of students and scholars."
- The FORCES team also is working on a battlefield simulation of the Civil War battle of Gettysburg.

## **Altered Reality, LLC**

URL: <https://cm.hsvchamber.org/list/member/altered-reality-llc-40492>

Publisher: [cm.hsvchamber.org](https://cm.hsvchamber.org)

- Experiencing the wonder of VR.

## **Virtual reality brings Barnes collection to Philly neighborhoods- WHYY**

URL: <https://whyy.org/articles/virtual-reality-brings-barnes-collection-outside-the-museum-and-into-the-neighborhoods/>

Publisher: [whyy.org](https://whyy.org)

- The downtown Philadelphia art institution is bringing VR goggles to libraries, recreation centers and senior centers around Philadelphia to reach people who may have never been to an art museum.
- After seeing the simulation, the Barnes offer participants free admission and, in some cases, free transportation to the gallery on the Ben Franklin Parkway.
- The goggles allow people to move through a simulation of the Barnes' world-famous collection in order to get them interested in the real thing.

## **5 Reasons Why Schools Need Virtual Reality Education**

URL: <https://www.theamegroup.com/virtual-reality-education/>

Publisher: [theamegroup.com](https://www.theamegroup.com)

- A scenario designed around a current lesson on topics such as specialized training, vocational jobs or nursing can be "practiced" and experienced using this technique.
- Virtual reality education puts the power in the hands of the learner.
- So if you're hesitant about what role virtual reality can play in the classroom, just take a look at some of the benefits listed here.

## **Experience UNE Portland in Virtual Reality**

URL: <http://www.youvisit.com/tour/panoramas/une/80249?id=1637>

Publisher: [youvisit.com](https://www.youvisit.com)

- Experience UNE Portland in Virtual Reality

## **Virtual Reality: The LSD Trip Behind the Whole Earth Catalog| Time**

URL: <https://time.com/5286135/virtual-reality-lsd-trip-whole-earth-catalog/>

Publisher: time.com

- "We now have evidence that that does happen sometimes- but in many more cases, these are drugs that can make you sane."
- To accompany Pollan's book, virtual reality Director Elijah Allan Blitz reimagined Brand's trip in a virtual reality experience exclusively for TIME.

## **Experience The March on Washington in Virtual Reality| Time**

URL: <https://time.com/the-march/>

Publisher: time.com

- Experience The March on Washington in Virtual Reality

## **ERIC- EJ1131313- Reasons to Use Virtual Reality in Education and Training Courses and a Model to Determine When to Use Virtual Reality, Themes in Science and Technology Education, 2009**

URL: <https://eric.ed.gov/?id=EJ1131313>

Publisher: eric.ed.gov

- ERIC Reasons to Use Virtual Reality in Education and Training Courses and a Model to Determine When to Use Virtual Reality, Themes in Science and Technology Education, 2009
- Reasons to Use Virtual Reality in Education and Training Courses and a Model to Determine When to Use Virtual Reality

## **Experience Athletics& Recreation in Virtual Reality.**

URL: <https://www.youvisit.com/tour/jhuhomewood/139384?tourid=tour1>

Publisher: youvisit.com

- Experience Athletics& Recreation in Virtual Reality.

## **9 Virtual Reality Tours You'll Love – Google Arts & Culture**

URL: [https://artsandculture.google.com/story/mwJiZHf\\_Y7FfLg](https://artsandculture.google.com/story/mwJiZHf_Y7FfLg)

Publisher: artsandculture.google.com

- With a virtual reality viewer like Google Cardboard, you can use the Google Arts& Culture app on iOS and Android to take a virtual tour of the street art scene in Rome
- Take this immersive tour and learn about the dynamic history of the Peacock Room, the renowned decorative interior by American artist James McNeill Whistler.
- Then click here, scroll down to 'Virtual Tours' and click to launch the experience.

## **Underwater Virtual Reality**

URL: <https://www.kalahariresorts.com/pennsylvania/parks-and-passes/underwater-virtual-reality/>

Publisher: kalahariresorts.com

- Underwater VR Experience

## **THE VIRTUAL REALITY COMPANY**

URL: <http://www.thevrcompany.com/>



Publisher: thevrcompany.com

- "It was the best VR experience we've had in the 4 years of covering the space."
- Jason's experience includes senior business development, sales and branding roles at Endemol Worldwide Brands, Agility Studios and FremantleMedia Enterprises.
- VRC is a content studio and production company that combines the best in narrative storytelling, technology, art and gaming to create compelling and immersive VR experiences for people around the world.

### **Crystal Bridges Virtual Reality- Crystal Bridges Museum of American Art**

URL: <https://crystalbridges.org/vr/>

Publisher: crystalbridges.org

- Immerse yourself in the stories of American art and architecture at Crystal Bridges with unique virtual reality experiences.
- No matter where you are in the world, you can still experience State of the Art 2020.
- State of the Art 2020 VR is a virtual exploration of the exhibition in which users explore the artworks as they appeared in the Crystal Bridges and Momentary galleries.

### **Virtual Reality Experiences at Pacific Science Center**

URL: <https://www.pacificsciencecenter.org/exhibits/vr-experiences/>

Publisher: pacificsciencecenter.org

- Virtual Reality Experiences at Pacific Science Center
- These augmented reality experiences are located throughout PacSci.
- Be the first to try Expedition Titan, a cutting edge VR experience, while also helping and giving feedback to one of our Startups in Residence, Hyperspace.

### **Virtual Reality Skydiving| iFLY**

URL: <https://www.iflyworld.com/programs/virtual-reality/>

Publisher: iflyworld.com

- Before you fly, you'll sit through a short orientation in a fun group setting.
- Then you fly twice with an iFLY Instructor without VR to learn the basics of flying.
- Booking an iFLY virtual reality experience is easy!

### **VR Headsets for PC: Virtual Reality Gaming- Microsoft Store**

URL: <https://www.microsoft.com/en-us/store/b/virtualreality>

Publisher: microsoft.com

- Creating amazing mixed reality experiences with HoloLens 2 Development Edition.
- The wearable Virtual Reality gaming gear on select systems gives you room-scale VR gaming that delivers an immersive experience via comfortable headsets and intuitive handheld controls.
- It's here-- in all its stunning, three-dimensional glory.

### **Virtual Reality- MGM Grand Las Vegas**

URL: <https://mgmgrand.mgmresorts.com/en/entertainment/virtual-reality.html>

Publisher: mgmgrand.mgmresorts.com

- Reservations to experience Virtual Reality Powered by Zero Latency at LEVEL UP inside MGM Grand are now open.

### **Virtual Reality| Rotary International**

URL: <https://www.rotary.org/en/virtual-reality>

Publisher: rotary.org

- By combining the power of Rotary's virtual reality app with a VR viewer and smartphone, you can immerse yourself in some of Rotary's most meaningful work.
- You can also view a 360 ° version of our VR films simply by watching them on your computer or smartphone.

### **What's on**

URL: <https://www.louvre.fr/en/what-s-on/life-at-the-museum/the-mona-lisa-in-virtual-reality-in-your-own-home>

Publisher: louvre.fr

- The first VR experience of the Mona Lisa
- This immersive VR experience, part of the Leonardo da Vinci exhibition in 2020, is also available on smartphone.
- This eight-minute VR experience is based on the knowledge compiled by exhibition curators Louis Frank and Vincent Delieuvin after a decade of research in preparation for the landmark 2020 exhibition.

### **Truth Traveler: A Virtual Reality Experience| Ark Encounter**

URL: <https://arkencounter.com/virtual-reality/>

Publisher: arkencounter.com

- Get seated in the Truth Traveler time machine and journey back to the time of Noah in our immersive virtual reality experience, A Flood of Reality!
- The Truth Traveler's A Flood of Reality is a totally immersive 4K virtual reality experience that will feel like a "ride," though you will be comfortably and safely seated in MX4D® Motion EFX Experience seats while wearing a state-of-the-art VR headset.
- A Flood of Reality VR experience shows throughout most of the day.

### **Coronavirus: Is virtual reality tourism about to take off?- BBC News**

URL: <https://www.bbc.com/news/business-54658147>

Publisher: bbc.com

- Faced with a new reality of diminished tourism, many believe that Covid-19 might be the watershed moment for VR that changes perceptions from a clever and occasional marketing trick to a permanent fixture of tourism marketing.
- In the case of the Maldives, VR has been used to showcase various experiences on island properties, such as morning yoga by the beach, snorkelling, or cooking lessons.
- Thoyyib Mohamed, managing director of the Maldives Marketing and Public Relations Corporation, says while VR will indeed help boost tourism, the direct correlation may be hard to measure.

## **Destination B.C. builds 3D virtual reality adventures to promote tourism**

URL: <https://www.cbc.ca/news/canada/british-columbia/destination-b-c-builds-3d-virtual-reality-adventures-to-promote-tourism-1.2874429>

Publisher: cbc.ca

- Destination B.C. builds 3D virtual reality adventures to promote tourism
- Destination B.C. is using 3D virtual reality technology to entice tourists to the province.
- Last week, it showed the videos to 80 travel influencers in New York and Washington D.C. and it will next roll out the experiences at trade shows and conferences around the world in early 2015.

## **The most extreme examples of Virtual Reality: Immersive Experience**

URL: <https://3dcoil.grupopremo.com/blog/extreme-examples-virtual-reality-immersive-experience/>

Publisher: 3dcoil.grupopremo.com

- VR worlds allow users to live experiences of all kind, including those completely impossible.
- But with a VR headset, a computer and an application, it's possible to live an experience like flying, which can even become more realistic if we can try it in a facility with certain hardware that allows the user to feel the complete sensation of fly.
- For example, if we think about flying, we associate this activity with certain elements or vehicles that allow us to fly.

## **Sustainable tourist space: From reality to virtual reality?: Tourism Geographies: Vol 1, No 1**

URL: <https://www.tandfonline.com/doi/abs/10.1080/14616689908721293>

Publisher: tandfonline.com

- Virtual reality seems to promote tourism, rather than discourage it.
- One can expect that virtual tourism will improve over time and will satisfy some of the tourists' demands for travel experiences.
- Through its development, tourism has progressively lost its sense of authenticity in an effort to gain volume, a phenomenon that, in return, has triggered the emergence of new, sustainable forms of tourism.

## **Microsoft 'DreamWalker' VR lets users traverse real world while immersed in virtual reality- GeekWire**

URL: <https://www.geekwire.com/2019/microsoft-dreamwalker-vr-system-lets-users-traverse-real-world-immersed-virtual-reality/>

Publisher: geekwire.com

- Microsoft 'DreamWalker' VR lets users traverse real world while immersed in virtual reality
- " Provided with a real-world destination, DreamWalker finds a similar path in a pre-authored VR environment and guides the user while real walking the virtual world," the researchers explain in their paper.
- " To keep the user from colliding with objects and people in the real-world, DreamWalker's tracking system fuses GPS locations, inside-out tracking, and RGBD frames to 1-RRB- continuously and accurately position the user in the real world, 2-RRB-

- sense walkable paths and obstacles in real time, and 3-RRB- represent paths through a dynamically changing scene in VR to redirect the user towards the chosen destination."

### **Marriott Hotels reimagines travel with augmented reality**

URL: <https://www.marketingdive.com/ex/mobilemarketer/cms/news/software-technology/16391.html>

Publisher: marketingdive.com

- Marriott Hotels reimagines travel with augmented reality
- By adding the augmented reality video to the print ad, Marriott Hotels engages readers in ways that would not have been possible with a static, traditional print ad alone.
- Marriott Hotels is attempting to cater to its mobile-savvy guests, and mobile check-ins along with augmented reality are a great way to do so.

### **Oculus Quest 2 – Advanced All-In-One Virtual Reality Headset – 64 GB- Walmart.com-Walmart.com**

URL: <https://www.walmart.com/ip/Oculus-Quest-2-Advanced-All-In-One-Virtual-Reality-Headset-64-GB/484166583>

Publisher: walmart.com

- First I'll start by saying I have been gaming for twenty years now but have never got into the VR scene.
- I felt the technology was not there and the pricing was very high.
- So for anyone on the edge about getting a VR headset I could definitely recommend The Quest 2.

### **Virtual Tour Creator**

URL: <https://arvr.google.com/tourcreator/>

Publisher: arvr.google.com

- Tour Creator makes it easy to build immersive, 360 ° tours right from your computer
- Share your tour with a link.

# ADDITIONAL ARTICLES: HEALTH AND WELLNESS

*The full set of articles discovered by Gyan based on your research question can be found in this section.*

## **How Virtual Reality Meditation Helps Me Control My Anxiety**

URL: <https://www.healthline.com/health/mental-health/meditation-virtual-reality>

Publisher: healthline.com

- Until about a year ago, VR in any form was barely on my radar.
- VR gives me something to focus on besides the anxious or intrusive thoughts that constantly vie for headspace.
- Starting out, I had low expectations.

## **How Virtual Reality Will Transform Medicine- Scientific American**

URL: <https://www.scientificamerican.com/article/how-virtual-reality-will-transform-medicine/>

Publisher: scientificamerican.com

- 'VR is starting to transform our world, and medicine may well be the first sector where the impact is profound.
- Even in the early days, when the user entered a laughably low-resolution world, VR showed great promise.
- In a study with her colleague, burn surgeon Abraham Houg, Difede is aiming to quantify the pain-distraction effects of a successor to SnowWorld called Bear Blast, a charming VR game in which patients toss balls at giggly cartoon bears.

## **VR, AR and the NHS: How virtual and augmented reality will change healthcare**

URL: <https://www.zdnet.com/article/vr-ar-and-the-nhs-how-virtual-and-augmented-reality-will-change-healthcare/>

Publisher: zdnet.com

- And while countries with private healthcare systems are leading the way in VR adoption, countries dominated by publicly-funded healthcare are also exploring these technologies.
- For example, avatars in VR have been used to assess patients' higher brain functions or detect cognitive problems, while virtual kitchens have helped healthcare professionals assess how people with traumatic brain injury can undertake normal daily activities.
- VR and AR won't just be doctors' tools, however

## **Nutrition Grad Finds Ways to Promote Wellness, from Virtual Reality to YouTube**

URL: <https://cals.ncsu.edu/news/nutrition-grad-finds-ways-to-promote-wellness-from-virtual-reality-to-youtube/>

Publisher: cals.ncsu.edu

- To become a registered dietitian, she must also complete 1,200 hours of supervised training and pass a national exam.

- “My favorite memory would be the moment of receiving appreciation from my clients as a personal fitness trainer at NC State,” she says.
- She served as a personal trainer and group fitness instructor, leading high-intensity interval training as well as functional training known as F45.

### **New virtual reality fitness apps aim to make exercise less tedious- The Washington Post**

URL: <https://www.washingtonpost.com/news/to-your-health/wp/2016/08/16/cardio-machine-game-controller-virtual-reality-comes-to-fitness-results-often-bizarre/>

Publisher: washingtonpost.com

- New virtual reality fitness apps aim to make exercise less tedious
- Although he acknowledges that several years may pass before radiologists can use Bioflight for diagnostics, Shorten and his colleagues are developing training techniques with institutions such as Duke University, the University of Southern California and Case Western Reserve University.
- On top of that, the VR platform update that Blue Goji plans to release this year will cost extra.

### **Virtual Reality Helps Kids Cope**

URL: <https://www.leehealth.org/health-and-wellness/healthy-news-blog/children-s-health/virtual-reality-helps-kids-cope-at-golisano-children-s-hospital>

Publisher: leehealth.org

- But it's necessary in Sebastian's case.
- Swartz got the go-ahead from the patient's care team to try the VR system for procedural support for the first time at Golisano.
- Nurses positioned themselves on each side of the bed to access each port at the same time, and Swartz was at the head of the bed with the VR headset.

### **BehaVR Partners to Advance Virtual Reality for Social Anxiety Disorder**

URL: <https://www.businesswire.com/news/home/20200805005637/en/BehaVR-Partners-to-Advance-Virtual-Reality-for-Social-Anxiety-Disorder>

Publisher: businesswire.com

- “BehaVR's technology platform expands on VR's capability, using real-time biometrics and machine learning to personalize the experience.
- BehaVR has launched a new partnership aimed at leveraging virtual reality experiences to address critical unmet needs in social anxiety disorder
- With a focus on preventive medical care and patient care, as well as treatment of diseases, Sumitomo Dainippon Pharma aims to launch new businesses in these fields by building a platform that is geared chiefly toward areas in which we can create synergies with our own pharmaceutical business.

### **VRHealth, Oculus Team Up to Power Virtual Reality Wellness Solutions for Patients-**

URL: <https://hitconsultant.net/2018/09/26/vrhealth-oculus-virtual-reality/>

Publisher: hitconsultant.net

- Virtual Reality solutions have the potential to be transformative for the healthcare industry since the immersive experience and ability to monitor progress has enormous potential benefits for patients, doctors, and healthcare facilities.
- VRHealth's non-invasive medical tools are provided via VR content while utilizing artificial intelligence and cloud-computing algorithms to deliver advanced data analytics.
- VRHealth uses highly-accurate tracking tools and provides data analysis for use in a hospital, medical facilities or in a remote environment, and are already seeing early success in medical facilities and hospitals

### **VR fitness: 5 emerging brands that are driving the health-care tech trend**

URL: <https://www.foxbusiness.com/technology/vr-fitness-5-emerging-brands-that-are-driving-the-techy-healthcare-trend>

Publisher: foxbusiness.com

- Thanks to VR technology, you can hit the gym without ever leaving your home.

### **Virtual Reality Video Games That Double as Exercise- The New York Times**

URL: <https://www.nytimes.com/2019/09/17/smarter-living/wirecutter/virtual-reality-video-games-that-double-as-exercise.html>

Publisher: nytimes.com

- Pulling a ski-mask-like VR headset over your eyes drops you into a virtual world where you can watch movies, play games, and, yes, exercise.
- "But VR has the ability to trick the mind into thinking it's a game and not exercise."
- a VR headset's ability to block out the real world makes it even easier to get lost in the flow of exercise disguised as a game.

### **Just What the Doctor Ordered: VR for Health& Wellness**

URL: <https://www.epam.com/insights/blogs/just-what-the-doctor-ordered-vr-for-health-and-wellness>

Publisher: epam.com

- Our experience design team at EPAM's San Francisco office has been exploring how to use VR to reduce stress and increase resiliency
- VR is being used for acute pain relief resulting from disease, chronic pain, medical procedures and injury.
- VR can be used to change lives and reduce suffering for individuals and their loved ones.

### **Exploring How Virtual Reality Is Changing Health Care**

URL: <https://www.aarp.org/home-family/personal-technology/info-2018/vr-explained.html>

Publisher: aarp.org

- To enter this world, you need gear.
- VR gear
- Several competing VR headsets are on the market

### **Hoag to "Nurture" New Moms Through Virtual Reality**

URL: <https://www.hoag.org/news/-nurture-new-moms-through-virtual-reality/>



Publisher: hoag.org

- Designed in partnership with VR digital wellness leader BehaVR based in Nashville, NurtureVR will be available in a pilot program involving 30 pregnant women next month.
- The idea is that VR can serve as a lifelong tool, something women can take with them through the 'fourth trimester,' that eight-week period after a baby is born, and beyond," Dr. Louis said.
- "Hoag has incorporated VR technology to assist surgeons with operations since 2015, and the hospital remains a leader in using VR with patients for pain management, patient education and mindfulness" said Robert Louis, M.D, Chief of Neurosurgery and the Empower360 Endowed Chair for Skull Base and Minimally Invasive Neurosurgery, Pickup Family Neurosciences Institute at Hoag.

### **From Addiction to Pain Management, New Virtual Reality Tech Expands Its Reach in Healthcare**

URL: <https://www.everydayhealth.com/healthy-living/from-addiction-to-pain-management-new-virtual-reality-tech-expands-its-reach-in-healthcare/>

Publisher: everydayhealth.com

- This week's Consumer Electronics Show in Las Vegas has been showcasing some of the latest advances in the field as healthcare providers are turning to VR for pain management, mindfulness, stress reduction, and addiction.
- Using VR to Ease Depression
- Its VR experience features binaural audio designed to stimulate brain waves that calm the nervous system.

### **How Virtual Reality Is Being Used to Heal | Goop**

URL: <https://goop.com/wellness/health/virtual-reality-for-healing/>

Publisher: goop.com

- But what you may not know is that clinicians and researchers have been developing VR environments that can change the way that we experience things in the real world, too-like post-traumatic stress, phobias, pain, and so much more.
- Working with a clinician, veterans are gradually guided into these VR environments while their physiological responses and stress levels are carefully monitored.
- You can distill the key aspects of VR down to five core elements

### **Virtual Reality Meditation/ VR Relaxation/ VR Guided Meditation**

URL: <https://guidedmeditationvr.com/>

Publisher: guidedmeditationvr.com

- Virtual Reality Meditation/ VR Relaxation/ VR Guided Meditation
- 'Guided Meditation' Proves That 'VR Relaxation' Will Almost Certainly Become Its Own Genre
- "Guided Meditation takes relaxation to high-tech levels with the immersive experience of virtual reality."

### **Study: VR helps you feel calm and connected amid Covid-19 quarantine**

URL: <https://www.cnbc.com/2020/04/25/study-vr-helps-you-feel-calm-and-connected-amid-covid-19-quarantine.html>

Publisher: cnbc.com

- If you've been quarantined due to Covid-19 stay-at-home orders, you might be eager to travel again
- "In this sense VR helps, because-LSB- it-RSB- does not require imaginative skills and isolates the user from the surrounding experience," Riva says.
- In addition to helping you tune out distractions, VR can help you interact with other people through shared virtual worlds.

### **Virtual Reality in Oakland| Health+ Wellness| diablomag.com**

URL: [https://www.diablomag.com/health-wellness/virtual-reality-in-oakland/article\\_bdf6a9af-68e4-5110-acbb-b33c8ded95cd.html](https://www.diablomag.com/health-wellness/virtual-reality-in-oakland/article_bdf6a9af-68e4-5110-acbb-b33c8ded95cd.html)

Publisher: diablomag.com

- While the technology is primarily used for surgical planning-to chart the best pathway to a tumor or aneurysm, for example-UCSF Benioff Children's is the first hospital in the country to routinely share this remarkable VR experience with patients and their families.
- VR experiences can be used in concert with pain medication and also have the potential to help patients reduce their opioid consumption.
- "I'm a gamer, so a VR headset is always cool," Jacob says.

### **Virtual Reality Might Be the Next Big Thing for Mental Health- Scientific American Blog Network**

URL: <https://blogs.scientificamerican.com/observations/virtual-reality-might-be-the-next-big-thing-for-mental-health/>

Publisher: blogs.scientificamerican.com

- These days, however, VR seems more likely to help our gray matter.
- It's a far safer, quicker and less expensive option.
- One 2018 study revealed good clinical gains from a VR therapy scenario to treat fear of heights that included a "virtual" therapist in the VR environment.

### **Get real: How virtual reality is transforming international health care**

URL: <https://www.aetnainternational.com/en/about-us/explore/international-health-insurance/virtual-reality-augmented-reality-access-health-care.html>

Publisher: aetnainternational.com

- For employers, offering VR solutions for employees relocating abroad shows support and understanding for workplace wellness and global health concerns.
- As such, employers sending staff on international assignments should n't make the mistake of overlooking the option of VR and AR health services.
- Patients' well-being is also catered to by VR and AR, allowing them to temporarily escape their hospital surroundings and enter virtual environments.

### **VR Fitness Is a Serious Workout, Seriously | Men's Journal**

URL: <https://www.mensjournal.com/health-fitness/vr-fitness-is-a-serious-workout-seriously/>

Publisher: mensjournal.com

- VR Fitness Is a Serious Workout, Seriously
- Regardless, VR fitness has officially landed, and I'd wager that goggles will soon be as common as treadmills.
- They appear as silhouettes to my left and right, and I do everything I can to make sure I score more points than they do.

### **Wellness | Campus Recreation**

URL: <https://campusrec.sfsu.edu/group-wellness>

Publisher: campusrec.sfsu.edu

- As a part of the Basic Needs Program at SF State, the Student Health Services and Mashouf Wellness Center are providing a safe and quiet place for busy student to rest or nap.

### **AppliedVR Case Study - The Steele Institute for Health Innovation**

URL: <https://www.geisinger.org/health-and-wellness/wellness-articles/2020/01/08/13/48/case-studies-applied-vr>

Publisher: geisinger.org

- AppliedVR Case Study-- The Steele Institute for Health Innovation
- The studies focus on the use of VR to modulate postoperative pain and potentially reduce the amount of opioids needed for pain management.
- AppliedVR's studies with orthopaedic patients at Geisinger are ongoing, and a study on using VR for chronic lower back pain is in development with funding from the National Institute on Drug Abuse.

### **Worlds First Multi-Sensory Virtual Reality Wellness Experiences - Ko Olina**

URL: <http://koolina.com/press/four-seasons-oahu-multi-sensory-reality-wellness-experience/>

Publisher: koolina.com

- Four Seasons Resort Oahu at Ko Olina and Sensync Partners to Introduce the Worlds First Multi-Sensory Virtual Reality Wellness Experiences
- In the Vessel guests see, hear, smell, feel, and touch sensations of nature, presented in unison, leveraging the power of sensory synchronisation to create immersive nature experiences personalised in real-time by recordings of the guest's physiology, yielding a first-of-its-kind, closed-loop experience.

### **Virtual Reality- A Turning Point For The Spa And Wellness Industries**

URL: <https://www.forbes.com/sites/solrogers/2019/08/12/virtual-reality-a-turning-point-for-the-spa-and-wellness-industries/>

Publisher: forbes.com

- The 'wellness everywhere' trend poses new competition, so adding VR to a list of treatments can provide differentiation and competitive advantage for a spa.

- Plus, VR is a powerful tool.
- We're far from the vacation memory implants Arnold Schwarzenegger experienced in Total Recall, but VR can certainly offer a break from the hustle and bustle of daily life, without the inconvenience of travel.

### **Virtual Reality Institute of Health and Exercise - Assessing the impact of exercising in virtual experiences on the human body.**

URL: <https://vrhealth.institute/>

Publisher: vrhealth.institute

- Virtual Reality Institute of Health and Exercise-- Assessing the impact of exercising in virtual experiences on the human body.
- The Virtual Reality Institute of Health and Exercise is an independent research& ratings organization created to study the health impact of virtual and augmented reality.
- We're powered mostly by the passion of our members.

### **Oculus and VRHealth bring virtual reality to patient care- MedCity News**

URL: <https://medcitynews.com/2018/10/oculus-vrhealth/>

Publisher: medcitynews.com

- Menlo Park, California-based Oculus, which was acquired by Facebook in 2014, offers a variety of VR products, including headsets like Go and Rift.

### **VR for Corporate Wellness| Virtual Reality for Corporate Wellness**

URL: <https://guidedvr.com/vrforcorporatewellness/>

Publisher: guidedvr.com

- VR for Corporate Wellness
- Guided VR can even be custom branded for your organization for that extra level of unique business advantage.
- With Guided VR, every desk can become the gateway to a relaxing virtual vacation.

### **ABC News: Virtual Reality May Mean Real Pain Relief for Hospitalized Patients**

URL: <https://www.cedars-sinai.org/newsroom/abc-news-virtual-reality-may-mean-real-pain-relief-for-hospitalized-patients/>

Publisher: cedars-sinai.org

- Brennan Spiegel, MD, MSHS, director of Cedars-Sinai's Health Service Research, brought VR to the medical center.
- As ABC News reported, Spiegel and his research team compared the effectiveness of VR in managing pain by separating 140 pain patients into two groups
- The VR headset gave patients a choice of 21 VR scenarios

### **VR and AR: Driving a Revolution in Medical Education& Patient Care**

URL: <https://er.educause.edu/blogs/2017/8/vr-and-ar-driving-a-revolution-in-medical-education-and-patient-care>

Publisher: er.educause.edu

- It is in the medical field that VR and AR seem to be not so much technologies of the future as of the present.

- These are just a few of the many cutting-edge examples in the use of immersive technologies in medical education.
- VR and AR help doctors, nurses, and students build mastery through real-life scenarios, share knowledge, prepare to solve problems, and save lives.

### **Green Dot Public Schools Partners With IFGworld to Bring Mental Wellness Support through Virtual Reality- Green Dot Public Schools**

URL: <https://greendot.org/2020/01/31/green-dot-public-schools-partners-with-ifgworld-to-bring-mental-wellness-support-through-virtual-reality/>

Publisher: greendot.org

- Through this collaboration, counselors at 11 Green Dot schools will work with students to use VR headsets to explore different interactive and immersive virtual environments to help reduce anxiety and learn mindfulness techniques for use in their daily lives.
- The WORLDS app developed by IFGworld takes full advantage of the Oculus VR headset, through mental relaxation environments that reduce anxiety, stress, and anger to promote enhanced wellbeing.
- "We are proud to partner with a first class organization in Green Dot that is always looking to innovate for students' wellbeing and are confident our VR software can help in lowering anxiety and providing a well rounded mental wellness experience."

### **Mental Wellness Through Virtual Reality Therapy**

URL: <https://www.vrdirect.com/blog/use-case/mental-wellness-through-virtual-reality-therapy/>

Publisher: vrdirect.com

- A new wave of psychological research is realizing that VR can diagnose and treat a whole range of mental health issues, and that
- The two previous examples should be done with a trained therapist, but there is something we can all use VR for, and that is to take a mini-holiday in a soothing virtual environment.
- Therapists can train you to control these anxieties by gradually introducing you to the things you fear, teaching you that these so-called threats are not actually as dangerous as you imagine.

### **ENGR110/210: Perspectives in Assistive Technology- Lecture 09a**

URL: <https://web.stanford.edu/class/engr110/lecture09a.html>

Publisher: web.stanford.edu

- VR and AR technology will also help facilitate the shift of medicine from clinic-based care to telemedicine based care, and to facilitate personalized medicine.
- We know from decades of clinical research that VR/AR technology can provide breakthrough solutions that address the most difficult problems in healthcare
- VR and AR Systems can be used to improve medical training such as surgical skill training and procedure planning by applying simulation-based learning principals.

### **December 3, 2020- Virtual Reality Technology, Machine Learning, Biosensing Converging to Transform Healthcare – Triple Ring Technologies**

URL: <https://www.tripleringtech.com/medtechfrontiers/events/december-3-2020->

Publisher: tripleringtech.com

- VR and AR technology will also help facilitate the shift of medicine from clinic-based care to telemedicine based care, and to facilitate personalized medicine.
- VR and AR Systems can be used to improve medical training such as surgical skill training and procedure planning by applying simulation-based learning principals.
- We know from decades of clinical research that VR/AR technology can provide breakthrough solutions that address the most difficult problems in healthcare

### **Virtual Reality Therapy Edges Out Fear of Heights- Vista Health...**

URL: <https://vista-health.com/virtual-reality-therapy-edges-out-fear-of-heights/>

Publisher: vista-health.com

- "In virtual reality, people can repeatedly enter simulations of everyday situations that trouble them and be guided in the very best ways to think, feel and behave," explained study author Daniel Freeman.
- The virtual reality treatment involved a head-mounted display and hand controllers, introducing users to computer situations such as rescuing a cat from a tree, and playing a xylophone near the edge of a floor.

### **The future of VR in healthcare- InterbrandHealth**

URL: <https://www.interbrandhealth.com/views/the-future-of-vr-in-healthcare/>

Publisher: interbrandhealth.com

- The future of VR in healthcare
- Innovation with VR to improve health outcomes will make a significant impact on our quality of life and overall healthcare costs.
- I agree-we're not seeing much in terms of practical development of VR in traditional healthcare.

### **Virtual and Augmented Reality in Medical Technology • Medtech Impact On Wellness**

URL: <https://www.medtechimpact.com/virtual-and-augmented-reality-in-medical-technology/>

Publisher: medtechimpact.com

- "We found that on-demand use of VR in a diverse group of hospitalized patients was well tolerated and resulted in statistically significant improvements in pain versus a control group exposed to an in-room health and wellness television channel.
- Virtual Reality has been increasingly used to manage pain, trauma, and distress-- particularly during painful medical procedures-- as investigators hypothesize that VR acts as a nonpharmacologic form of analgesia by exerting an array of emotional affective, emotion-based cognitive and attentional processes on the body's intricate pain modulation system."
- as the winner in the EdSim Challenge, which called for virtual reality, video game developer, and educational technology communities to submit concepts for immersive simulations that will prepare students for a globally competitive workforce and spur an ecosystem of virtual and augmented reality technology in education.

## **VR and AR tools are enhancing biology and health and wellness classes for students through safe, VR labs and field trips**

URL: <https://edtechmagazine.com/k12/article/2019/03/k-12-teachers-use-augmented-and-virtual-reality-platforms-teach-biology-perfcon>

Publisher: edtechmagazine.com

- VR and AR tools are enhancing biology and health and wellness classes for students through safe, VR labs and field trips
- A study from the Georgia Institute of Technology found students at an Atlanta high school, using mixed reality tools to learn biology,
- recognize the benefit of mixed reality software in biology and health courses and have already begun to invest in courseware.

## **How Virtual Reality Is Reshaping The Future Of Home Fitness**

URL: <https://www.prnewswire.com/news-releases/how-virtual-reality-is-reshaping-the-future-of-home-fitness-301131943.html>

Publisher: prnewswire.com

- A fitness routine that uses the revolutionary power of VR to leave its members joyful, inspired and headed towards the best shape of their lives.
- To do this we gathered a team of the most experienced and passionate choreographers, game developers, trainers and physical fitness experts, to create a dynamic, immersive, experience that is always changing, personalized for you, and available on demand, in your home.

## **TRIPP: Fitness for your Inner Self**

URL: <https://www.tripp.com/>

Publisher: tripp.com

- TRIPP's groundbreaking virtual reality experiences deliver an entirely new way to meditate
- TRIPP virtual reality catalogue is available on all Oculus VR headsets and coming soon to augmented reality devices
- TRIPP virtual reality catalogue is available on all Oculus VR headsets

## **Investing in People: Improving Corrections Staff Health and Wellness**

URL: <https://nij.ojp.gov/topics/articles/investing-people-improving-corrections-staff-health-and-wellness>

Publisher: nij.ojp.gov

- We have also brought resiliency training and meditation to our staff, with profound results.
- NIJ aims to address the critical questions of the criminal justice field, particularly at the state and local levels.

## **Spa Treatments Are Going Virtual. Virtual reality is the hottest new way...**

URL: <https://elemental.medium.com/an-unreal-way-to-relax-cabbe45f9b42>

Publisher: elemental.medium.com

- There's also Relax VR, which sells spas special virtual reality headsets preloaded with calming landscapes and guided meditations.



- Mindful Touch, from the Barcelona-based Natura Bisse, offers personalized VR spa experiences that encourage "thoughtful awareness."
- An unpublished study of just 62 people, from a university in Argentina, found that Relax VR's program significantly increased pain tolerance among people who watched it while immersing their hands in ice water.

### **Interactive Virtual Reality Relaxes You in Minutes: Try It | Time**

URL: <https://time.com/4498402/lumen-interactive-virtual-reality-relax/>

Publisher: time.com

- That's the vision of LUMEN, a relaxing virtual reality experience that launches this week through LIFE VR's new mobile app.
- LUMEN was created in collaboration with Walter Greenleaf, PhD, of Stanford University's Virtual Human Interaction Lab, and Framestore's VR Studio-and Dr. Greenleaf and other Stanford research scientists at the Lucile Packard Children's Hospital will be evaluating how LUMEN can help children who are undergoing difficult surgical procedures.
- LUMEN is available exclusively through LIFE VR's mobile app for iOS and Android, and on Steam and Viveport for the HTC Vive.

### **UCSF Business Accelerator Studying Digital Therapeutics, Virtual Reality**

URL: <https://mhealthintelligence.com/news/ucsf-business-accelerator-studying-digital-therapeutics-virtual-reality>

Publisher: mhealthintelligence.com

- UCSF Business Accelerator Studying Digital Therapeutics, Virtual Reality
- Earlier this year, Cedars-Sinai presented the results of a study that found VR to be effective as a digital therapeutic for in-patient treatment of pain.
- Championed by health systems like Los Angeles-based Cedars-Sinai, which hosts an annual conference focused on VR applications in healthcare, the mHealth platform is now in use in dozens of locations around the country to help patients with issues like pain management, physical therapy and treatment of nervous disorders like anxiety.

### **Virtual Reality Makes a Real Impact on Senior Care**

URL: <https://healthtechmagazine.net/resources/white-paper/virtual-reality-makes-real-impact-senior-care>

Publisher: healthtechmagazine.net

- While the initial development of consumer VR is focused on entertainment and gaming, research and application of VR has spread to health, wellness and medical
- VR is most effective as a tool or medium to facilitate older adult engagement and human connection, rather than a panacea for solving social isolation.
- VR is an accessible and impactful solution for elder care

### **Does Virtual Reality Reduce Stress? | Bayhealth**

URL: <https://www.bayhealth.org/community-health-and-wellness/newsroom/2021/march/virtual-reality>

Publisher: bayhealth.org

- Driven to find additional ways to reduce staff stress levels, team members at Bayhealth are introducing virtual reality experiences to the organization.
- Over a four-week period, the research team alternated between Bayhealth Kent and Sussex campuses, offering virtual reality experiences on day and night shifts, and weekends as well.
- Participants wore a virtual reality headset to simulate a five to 10-minute guided meditation.

### **Podcast: Dr. Jimmy Bagley On VR Gaming For Employee Wellness**

URL: <https://blog.wellable.co/jimmy-bagley-on-vr-gaming-for-employee-wellness>

Publisher: [blog.wellable.co](https://blog.wellable.co)

- The idea is that consumers and just people interested in gaming in general out there can look at games and be like 'this one might be a good form of exercise while maybe that one not so much.'
- As you're the consumer and you're thinking about the Virtual Reality Institute, is the belief that me as a consumer, I'm looking between a handful of VR games that it may change my purchasing decision?
- For example, my decision might be 'well, I am interested in both of these games, and this one will have a better impact to my health' that people will start purchasing or consuming VR games in a way that considers their health.

### **Virtual Reality: The LSD Trip Behind the Whole Earth Catalog | Time**

URL: <https://time.com/5286135/virtual-reality-lsd-trip-whole-earth-catalog/>

Publisher: [time.com](https://time.com)

- "We now have evidence that that does happen sometimes- but in many more cases, these are drugs that can make you sane."
- To accompany Pollan's book, virtual reality Director Elijah Allan Blitz reimagined Brand's trip in a virtual reality experience exclusively for TIME.

### **Virtual-reality applications give science a new dimension**

URL: <https://www.nature.com/articles/d41586-018-04997-2>

Publisher: [nature.com](https://www.nature.com)

- Looking at a cell in VR is "as close as you can get to touching" such a minuscule structure, says Sebastian Konrad, product manager for VR at Arivis, a life-sciences software company in Munich, Germany, that developed this particular VR visualization tool, called InViewR, and who helped to arrange my demonstration of it.
- Juicebox VR, an app designed for these simple devices, visualizes the connectivity of the human genome as a Mars-like landscape scarred with a colossal wall, says Erez Aiden, a geneticist at Baylor College of Medicine in Houston, Texas, whose lab developed the tool.
- Despite the broad proliferation of VR and AR tools in consumer culture, only a small minority of labs currently uses the technology, and it remains to be seen how many others will follow suit.

### **Exploring Chemistry with Wireless, PC-Less Portable Virtual Reality Laboratories**

URL: <https://pubs.acs.org/doi/10.1021/acs.jchemed.0c00954>

Publisher: pubs.acs.org

- Because VR allows for realistic interaction with computer-generated 3-dimensional hologram-like learning objects with handheld controllers, it is inherently versatile, and we have therefore asked
- Can we extend the documented benefits of such immersive experiences to an undergraduate chemistry lab at scale?
- This particular VR lab has the advantages of being green and portable, both features that are easily applied to future chemistry classes, including remote courses that will undoubtedly become more common in the era of e-learning.

### **Virtual Reality and the COVID Mental Health Crisis- Scientific American**

URL: <https://www.scientificamerican.com/article/virtual-reality-and-the-covid-mental-health-crisis/>

Publisher: scientificamerican.com

- When most people think of VR, they think of a gaming technology-a toy for pent-up teens to play first-person shooter games in their parents' basement.
- VR works by creating a sense of psychological
- When VR scientists speak of presence

### **NC State VR Organic Chemistry Labs**

URL: <https://sites.google.com/ncsu.edu/ncstatevrorganicchemistrylabs/home>

Publisher: sites.google.com

- First, download and install the Wonda VR app for iOS or Android.
- If you have any questions or would like more information please contact Dr. Maria Gallardo-Williams
- -LRB- See the VR Guide for details.-RRB-

### **Virtual Reality as a Clinical Tool for Pain Management**

URL: <https://pubmed.ncbi.nlm.nih.gov/29904806/>

Publisher: pubmed.ncbi.nlm.nih.gov

- Recent articles support the hypothesis that VR therapies can effectively distract patients who suffer from chronic pain and from acute pain stimulated in trials.
- Clinical studies yield promising results in the application of VR therapies to a variety of acute and chronic pain conditions, including fibromyalgia, phantom limb pain, and regional specific pain from past injuries and illnesses.
- We also discuss the application of VR technologies to treat various chronic pain conditions in both outpatient and inpatient settings.

### **The Impact of Virtual Reality on Chronic Pain**

URL: <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0167523>

Publisher: journals.plos.org

- They were also asked about immersion into the VR world and about possible side effects.
- Participants were further asked two questions about engagement in the virtual reality experience
- When the VR session occurred, the equipment and the general visual experience were explained to the participant and all questions were answered.

## **Virtual Reality in the Healthcare Industry**

URL: <https://visualise.com/virtual-reality/virtual-reality-healthcare>

Publisher: visualise.com

- At Visualise, we've worked with some of the biggest names in the medical& pharmaceutical industries to create a range of VR experiences.
- Medical Realities is one of the companies pioneering the use of Virtual Reality to deliver high-quality surgical training.
- VR's healing capabilities are n't just limited to psychological issues, but have been proved to work for pain management& physical treatment too.

## **Virtual reality and pain management: current trends and future directions**

URL: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3138477/>

Publisher: ncbi.nlm.nih.gov

- In clinical settings and experimental studies, participants immersed in VR experience reduced levels of pain, general distress/unpleasantness and report a desire to use VR again during painful medical procedures.
- The use of VR for pain and anxiety attenuation during burn care procedures and rehabilitation of burn survivors is one of the most widely researched uses of VR technology.
- VR for acute pain management

## **Virtual reality can help make people more empathetic | Stanford News**

URL: <https://news.stanford.edu/2018/10/17/virtual-reality-can-help-make-people-empathetic/>

Publisher: news.stanford.edu

- A Stanford-developed virtual reality experience, called "Becoming Homeless," is helping expand research on how this new immersive technology affects people's level of empathy.
- During the research, some participants were shown "Becoming Homeless," a 7-minute VR experience developed by Stanford's Virtual Human Interaction Lab.
- "Experiences are what define us as humans, so it's not surprising that an intense experience in VR is more impactful than imagining something," said Jeremy Bailenson, a professor of communication and a co-author of the paper.

## **Cedars-Sinai Study Finds Virtual Reality Therapy Helps Decrease Pain in Hospitalized Patients**

URL: <https://www.cedars-sinai.org/newsroom/cedars-sinai-study-finds-virtual-reality-therapy-helps-decrease-pain-in-hospitalized-patients/>

Publisher: cedars-sinai.org

- Fifty patients received virtual reality therapy consisting of wearing VR goggles to watch calming video content such as helicopter rides over scenic portions of Iceland, or imagery of swimming in the ocean with whales.
- Another 50 patients viewed a standard, two-dimensional nature video, depicting relaxing scenes with a calming music audio track, on a close-proximity screen.
- Because the VR intervention was only 15 minutes long and included only one visualization, it is possible that pain could rebound after completion of the therapy session, Spiegel said.

## **Virtual reality applications in mental health: Challenges and perspectives**

URL: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4361984/>

Publisher: [ncbi.nlm.nih.gov](https://www.ncbi.nlm.nih.gov)

- The growing interest in medical applications of VR is highlighted by the fact that the number of scientific articles published in Medline every year on this topic increased from 45 in
- It is also widely used in the arts and entertainment.
- The first applications of VR in medical teaching occurred in the 1990s with colonoscopy and upper gastrointestinal tract endoscopy simulation.

## **Using immersive virtual reality and anatomically correct computer-generated characters in the forensic assessment of deviant sexual preferences**

URL: <https://link.springer.com/article/10.1007/s10055-013-0235-8>

Publisher: [link.springer.com](https://link.springer.com)

- Overall, results suggest that the VR modality allows significantly better group classification accuracy and discriminant validity than audio stimuli, which provide empirical support for the use of this new method for PPG assessment.
- Additionally, the potential use of VR in interventions pertaining to self-regulation of sexual offending is addressed in conclusion.
- This is a preview of subscription content, access via your institution.

## **Virtual Reality Demonstrations at NIH Safety, Health& Wellness Day**

URL: <https://www.nihlibrary.nih.gov/about-us/news/virtual-reality-demonstrations-nih-safety-health-wellness-day>

Publisher: [nihlibrary.nih.gov](https://www.nihlibrary.nih.gov)

- Have you wondered how VR technology could help you with your research or thought about the ways it might help you stay fit?
- NIH Library staff will also be available to answer questions about how VR can be used in biomedical research, for fitness, and for other research applications.
- The Vive system has room-scale VR which allows the user to walk around and interact in a virtual space through a VR headset and two motion-tracked handheld controllers.

## **Stay Fit wiith Virtual Reality Experience-Ashley Gardens Memory Care**

URL: <https://www.sunshineretirementliving.com/sunshine-stories/charleston-memory-care-facility-helps-residents-stay-fit-with-vr/>

Publisher: [sunshineretirementliving.com](https://www.sunshineretirementliving.com)

- Stay Fit wiith Virtual Reality Experience
- But they can add physical movement to the experience by moving about the room to their level of ability.
- Because of this, VR experiences can promote healthy movement.

## **The Role of Virtual Reality in...- Journal of Medical Internet Research**

URL: <https://www.jmir.org/2020/6/e17331/>

Publisher: [jmir.org](https://www.jmir.org)

- This review also considered descriptive observational study designs including case series, individual case reports, and descriptive cross-sectional studies for inclusion.

- outcomes of significance to the review objective, including the effectiveness of the VR intervention on physical, mental, and psychosocial outcomes
- participants in the intervention group being younger than 60 years, VR apps not utilizing HMDs, studies using qualitative designs, and not addressing the effectiveness of VR apps.

### **Virtual reality, real help for veterans- The Boston Globe**

URL: <https://www.bostonglobe.com/lifestyle/health-wellness/2013/09/15/virtual-reality-helps-veterans-with-ptsd/iM2o9DV3OdbzBCp4FJB01O/story.html>

Publisher: bostonglobe.com

- Several studies underway are aimed at sorting out who might benefit most from virtual reality exposure therapy and how to improve it.

### **JCM**

URL: <https://www.mdpi.com/2077-0383/9/6/1986>

Publisher: mdpi.com

- Virtual Reality Exercise as a Coping Strategy for Health and Wellness Promotion in Older Adults during the COVID-19 Pandemic
- Findings from this study will better inform the development of technology-savvy PA programs for wellness promotion in older adults who practice social distancing and exercise from home under the unprecedented global health crisis.

### **IEEE Unveils'Generation AI 2020: Health, Wellness and...- IEEE**

URL: <https://www.ieee.org/about/news/2020/fourth-annual-global-study-examines-millennial-parents-confidence.html>

Publisher: ieee.org

- and wellness-related technologies are benefiting humanity, visit <https://transmitter.ieee.org/health-wellness-2020>

### **Virtual Reality in Senior Care| CDW**

URL:

<https://www.cdw.com/content/cdw/en/articles/computersandaccessories/2019/11/26/virtual-reality-in-senior-care.html>

Publisher: cdw.com

- With a growing population of adults age 65-plus comes a pressing need to address aging challenges, such as social isolation and loneliness, to improve health and wellness outcomes.
- The growing body of research on VR health applications continues to demonstrate the technology's impact on clinical, health and wellness outcomes.

### **VR for Mental Health, Wellness and Resilience**

URL: <https://ivrha.org/vr-for-mental-health-wellness-and-resilience/>

Publisher: ivrha.org

- VR can complement mental health therapy and can enhance wellness and resilience in individuals

## **AARP Introduces Alcove Virtual Reality App on Oculus Quest to Help Families Stay Connected**

URL: <https://press.aarp.org/2020-8-20-Innovation-Labs-Introduces-Alcove-Virtual-Reality-App-on-Oculus-Quest>

Publisher: [press.aarp.org](https://press.aarp.org)

- Alcove is the first family-oriented app to launch in the Oculus Quest store and offers a variety of settings for people to engage in together, including health and wellness activities, photo memory sharing, customized entertainment and games, and exploration of new places around the world.

## **What's happening in Healthcare VR? A Q&A with Justin Barad – Product Creation Studio**

URL: <https://www.productcreationstudio.com/blog/2018/4/12/whats-happening-in-consumer-health-vr-a-qa-with-justin-barad>

Publisher: [productcreationstudio.com](https://www.productcreationstudio.com)

- VR has a lot of health and wellness potential that is more consumer-facing.

## **Virtual reality, real exercise: Transylvania study to measure health benefits of VR gaming**

URL: <https://www.transy.edu/1780/2021/01/virtual-reality-real-exercise-transylvania-study-to-measure-health-benefits-of-vr-gaming/>

Publisher: [transy.edu](https://www.transy.edu)

- Forty students are being recruited for a study that will explore the health and wellness benefits of VR gaming.

## **Pain Eased By 'Virtual Reality' Explorations Of Nature: Shots- Health News: NPR**

URL: <https://www.npr.org/sections/health-shots/2019/08/19/751495463/got-pain-a-virtual-swim-with-dolphins-may-help-melt-it-away>

Publisher: [npr.org](https://www.npr.org)

- The other group of patients got to watch a health and wellness channel on TV, as much as they wanted.

## **Leveraging Psychology of Virtual Body for Health and Wellness- The Handbook of the Psychology of Communication Technology- Wiley Online Library**

URL: <https://onlinelibrary.wiley.com/doi/abs/10.1002/9781118426456.ch24>

Publisher: [onlinelibrary.wiley.com](https://onlinelibrary.wiley.com)

- Leveraging Psychology of Virtual Body for Health and Wellness Wiley Online Library

## **Using virtual reality to reduce burnout| VCU Health**

URL: <https://www.vcuhealth.org/news/using-virtual-reality-to-reduce-burnout>

Publisher: [vcuhealth.org](https://www.vcuhealth.org)

- Developed by Dr. Amelia Grover of the VCU School of Medicine office of faculty development, the Wellness Grant project solicited ideas from VCU Health providers to improve workplace wellness.



### **Virtual reality for management of pain in hospitalized patients: A randomized comparative effectiveness trial**

URL: <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0219115>

Publisher: journals.plos.org

- In this study, we performed a comparative effectiveness study evaluating a scalable VR intervention vs. "health and wellness" television programming in a diverse group of hospitalized patients with pain.

### **News: SportsAbility 2021 Features Sports...- Southeast ADA Center**

URL: <https://www.adasoutheast.org/news/articles.php?id=10174>

Publisher: adasoutheast.org

- "Our SportsAbility event is a great way for people to connect with each other-in-person or virtually-- and enjoy the health and wellness benefits of recreation."

# ADDITIONAL ARTICLES: EDUCATION & LEARNING

*The full set of articles discovered by Gyan based on your research question can be found in this section.*

## **Medical students using VR to study the human body | WBFO**

URL: <https://news.wbfo.org/post/medical-students-using-vr-study-human-body>

Publisher: [news.wbfo.org](https://news.wbfo.org)

- Medical students using VR to study the human body
- [Click here to watch a video showing what the students see in the VR headsets.](#)

## **Virtual reality helps Chinese medicine students learn acupuncture and doctors treat cancer**

URL: <https://www.scmp.com/lifestyle/health-wellness/article/2169092/virtual-reality-helps-chinese-medicine-students-learn>

Publisher: [scmp.com](https://www.scmp.com)

- Chinese and Western medicine is being improved by VR applications, with acupuncture students using 3D body maps and surgeons tackling tumours conventional medicine can not reach

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Publisher: [scmp.com](https://www.scmp.com)

- Chinese and Western medicine is being improved by VR applications, with acupuncture students using 3D body maps and surgeons tackling tumours conventional medicine can not reach

## **5 Reasons Why Schools Need Virtual Reality Education**

URL: <https://www.theamegroup.com/virtual-reality-education/>

Publisher: [theamegroup.com](https://www.theamegroup.com)

- A scenario designed around a current lesson on topics such as specialized training, vocational jobs or nursing can be "practiced" and experienced using this technique.
- Virtual reality education puts the power in the hands of the learner.
- So if you're hesitant about what role virtual reality can play in the classroom, just take a look at some of the benefits listed here.

## **ERIC- EJ1131313- Reasons to Use Virtual Reality in Education and Training Courses and a Model to Determine When to Use Virtual Reality, Themes in Science and Technology Education, 2009**

URL: <https://eric.ed.gov/?id=EJ1131313>

Publisher: eric.ed.gov

- ERIC Reasons to Use Virtual Reality in Education and Training Courses and a Model to Determine When to Use Virtual Reality, Themes in Science and Technology Education, 2009
- Reasons to Use Virtual Reality in Education and Training Courses and a Model to Determine When to Use Virtual Reality

## **Cognitive3D**

URL: <https://cognitive3d.com/blog/how-fortune-500-companies-are-using-virtual-reality-in-education-and-training/>

Publisher: cognitive3d.com

- In this blog, we'll cover how Fortune 500 companies are using Virtual Reality to train and educate their employees today.
- At Cognitive3D, we partnered with Accenture to research how well Virtual Reality can improve the effectiveness of vocational training.
- In 2017, Walmart introduced the use of Virtual Reality as a training and education tool at Walmart Academies around the world.

## **Augmented Reality in Education and Job Training: Use Cases and Benefits**

URL: <https://rubygarage.org/blog/augmented-reality-in-education-and-training>

Publisher: rubygarage.org

- Augmented Reality in Education and Job Training
- AR helps students better remember the information they've just learned.
- Let's review a few examples of augmented reality in classroom education.

## **VR for Education| The Future of Education| Immersion VR**

URL: <https://immersionvr.co.uk/about-360vr/vr-for-education/>

Publisher: immersionvr.co.uk

- VR allows students to experience destinations from across the world without ever having to leave the classroom.
- You can click or drag across the video to view the entire scene.
- VR offers memorable educational experiences

## **Virtual Reality Learning Initiative(VIRLI)- Projects- MAISA**

URL: <https://www.gomaisa.org/projects/virtual-reality-learning-initiative-virli/>

Publisher: gomaisa.org

- The Virtual Reality Learning Initiative is a collaborative effort of Great Lakes Reality Labs, the Michigan Association of Intermediate School Administrators, and the Intermediate School Districts with the goal to provide quality, immersive education and training that utilizes the latest technologies in virtual and augmented reality.

### **Virtual Reality Education- Markkula Center for Applied Ethics**

URL: <https://www.scu.edu/ethics-in-technology-practice/case-studies/virtual-reality-education/>

Publisher: scu.edu

- Using VR gear, students would interact with virtual teachers who could be more entertaining and personalized in their teaching.
- One idea is to use VR to enhance ethics and character education, allowing students to experience historical or fictional scenarios and make choices which allow them to experience the results of their decisions, thus hopefully forming their character in beneficial ways.

### **Virtual Reality in Education: Achievements and Challenges**

URL: <https://www.emergingedtech.com/2021/02/virtual-reality-in-education-achievements-challenges/>

Publisher: emergingedtech.com

- It means that students from across the globe can come together using VR to solve real-world issues.
- Similarly, Google Expeditions offers thousands of educational tours to help teach students through immersive-media.
- Social VR applications help tackle the monotony of online courses.

### **Using 360 Virtual Reality to Make Experiential Learning Accessible to All**

URL: <https://er.educause.edu/blogs/2020/4/using-360-virtual-reality-to-make-experiential-learning-accessible-to-all>

Publisher: er.educause.edu

- Using 360 Virtual Reality to Make Experiential Learning Accessible to All
- The primary aim of the project was to provide an accessible learning alternative, but additional goals included providing students who were absent with an opportunity to review key concepts, providing those who visited campus during the winter term with a way to see a springtime view of the bog, and providing students in the course with an opportunity to review key concepts after attending the field trip.
- The virtual tour was designed to meet the same learning outcomes as the real-life trip.

### **A systematic review of immersive virtual reality applications for higher education: Design elements, lessons learned, and research agenda- ScienceDirect**

URL: <https://www.sciencedirect.com/science/article/pii/S0360131519303276>

Publisher: sciencedirect.com

- A systematic review of immersive virtual reality applications for higher education
- Furthermore, the evaluation of educational VR applications has primarily focused on usability of the VR apps instead of learning outcomes and immersive VR has mostly been a part of experimental and development work rather than being applied regularly in actual teaching.
- VR possesses much potential and its application in education has seen much research interest lately.

### **Augmented Reality in Education and Training| SpringerLink**

URL: <https://link.springer.com/article/10.1007/s11528-012-0559-3>

Publisher: [link.springer.com](https://link.springer.com)

- Augmented Reality is one technology that dramatically shifts the location and timing of education and training.
- Applications of augmented reality systems in education.
- Web3D and augmented reality to support engineering education.

### **Products**

URL: <https://www.victoryxr.com/>

Publisher: [victoryxr.com](https://www.victoryxr.com/)

- Bring Journey for Civil Rights to Life with Augmented Reality!
- Students engage in facts with famous Civil Rights Activists from the 1700's-1900's through augmented reality.

### **How to Pick the Best Virtual Reality Education Software- PIXO VR**

URL: <https://pixovr.com/2019/04/01/virtual-reality-software/>

Publisher: [pixovr.com](https://pixovr.com/)

- Picking quality training materials and methods are essential to developing a confident and competent workforce.
- In this example, written materials and classroom lectures are reinforced and practiced in a simulated live environment to test comprehension, retention, and competency.
- Because virtual reality has crossed over into the gaming and entertainment mainstream, the price for everything necessary to deliver VR training has dramatically dropped.

### **Virtual Reality for Education**

URL: <http://virtualrealityforeducation.com/>

Publisher: [virtualrealityforeducation.com](http://virtualrealityforeducation.com/)

- While Google shuts down its VR divisions one by one, we thankfully have others who are willing to save some of the great products that began the VR resurgence in 2015.
- As more people become aware of and have access to VR, they will begin to realize that VR has great potential in various...
- Elliot Hu-Au Using VR to Go Behind the Scenes In recent years, the development of VR has matured and become more mainstream.

### **Effect of Immersive Virtual Reality Education Before Chest Radiography on Anxiety and Distress Among Pediatric Patients: A Randomized Clinical Trial**

URL: <https://jamanetwork.com/journals/jamapediatrics/fullarticle/2749335>

Publisher: [jamanetwork.com](https://jamanetwork.com/)

- Effect of Immersive Virtual Reality Education Before Chest Radiography on Anxiety and Distress Among Pediatric Patients
- Virtual reality education effectively relieves the distress of the radiography experience among pediatric patients.

- The VR experience was provided as a 360 °, 3-dimensional virtual environment that introduced and explained the process of chest radiography.

### **The Impact of Virtual Reality on Learning-- Campus Technology**

URL: <https://campustechnology.com/articles/2017/04/26/the-impact-of-virtual-reality-on-learning.aspx>

Publisher: campustechnology.com

- In most cases, the technology is used for a while and then educators begin to look at the potential benefits for learning and instruction.
- Over the years, social scientists have dialogued about the benefits of virtual environments in social research and their potential for training and education.
- Increasingly, however, more educators are looking at how VR can actually impact learning.

### **Can virtual reality revolutionize education?- CNN**

URL: <https://www.cnn.com/2018/11/01/health/virtual-reality-education>

Publisher: cnn.com

- Students can explore faraway countries or take a virtual trip to the International Space Station, as in this scene produced by Discovery VR.
- For example, students learning about DNA can partake in a web-based simulation of a crime scene, hunt for clues and analyze their findings.
- According to Nearpod's figures, more than 6 million students in the US and beyond have experienced its VR-based lessons, such as virtual field trips, after it began offering the service two years ago.

### **Challenges and Strategies for Educational Virtual Reality**

URL: <https://ejournals.bc.edu/index.php/ital/article/view/11075>

Publisher: ejournals.bc.edu

- This qualitative study invited experts from a range of disciplines and sectors to identify common challenges in the visualization and analysis of 3D data, and the management of VR programs, for the purpose of developing a national library strategy.
- See Cook and Lischer-Katz, "Integrating 3D and Virtual Reality into Research and Pedagogy," for a discussion of the VR "sandbox" platform developed at University of Oklahoma Libraries, Oklahoma Virtual Academic Laboratory.
- Tao Ni, Doug A. Bowman, and Jian Chen, "Increased Display Size and Resolution Improve Task Performance in Information-rich Virtual Environments," in Proceedings of Graphics Interface, 139-46.

### **UNC professor teaches in virtual reality amid coronavirus**

URL: <https://www.newsobserver.com/news/local/education/article241677001.html>

Publisher: newsobserver.com

- Steven King, an associate professor at the Hussman School of Journalism and Media, made the switch to remote classes into an experiment by creating a virtual reality experience that kept his students in the classroom.
- "We had enough headsets to do this group, but this does n't take off at a scale until every student has a VR headset and that's an expensive proposition."

- King had access to the technology and equipment through his dual appointment with UNC's Kenan-Flagler Business School.

### **Smartphone Based Virtual Reality(VR): an Immersive Simulation Tool**

URL: <https://www.kent.edu/ctl/smartphone-based-virtual-reality-vr-immersive-simulation-tool>

Publisher: kent.edu

- Smartphone Based Virtual Reality enables an immersive simulation activity that would use both
- The VR simulation activity is designed to support the following learning objectives
- The instructors should consider carefully the trade-offs of simulation realism versus performance, and plan out the simulation carefully and aligning it to the learning objectives and expected outcomes.

### **Future or fad? Virtual reality in medical education| AAMC**

URL: <https://www.aamc.org/news-insights/future-or-fad-virtual-reality-medical-education>

Publisher: aamc.org

- The patient and emergency staff were merely animations programmed to respond realistically to trainees' split-second decisions.
- White is among a growing number of learners at medical schools and teaching hospitals who are training through computer-generated simulations thanks to VR and its cousin, augmented reality.
- Two years ago, faculty at Stanford University School of Medicine began using VR for training in its Neurosurgical Simulation and Virtual Reality Center.

### **Evaluation of the ARTutor augmented reality educational platform in tertiary education**

URL: <https://slejournal.springeropen.com/articles/10.1186/s40561-018-0058-x>

Publisher: slejournal.springeropen.com

- Evaluation of the ARTutor augmented reality educational platform in tertiary education
- Through the use of AR in printed book pages, books can become dynamic sources of information.
- The ability of enhancing what is perceived in the environment with interactive digital content has created an interest in using AR applications for educational purposes.

### **Comparative usability studies of full vs. partial immersive virtual reality simulation for medical education and training- PubMed**

URL: <https://pubmed.ncbi.nlm.nih.gov/18391324/>

Publisher: pubmed.ncbi.nlm.nih.gov

- Comparative usability studies of full vs. partial immersive virtual reality simulation for medical education and training
- Virtual reality simulation provides a means of making experiential learning reproducible and reusable.
- Previously, it was found that first year medical students using a VR simulation for medical education demonstrated effectiveness in learning as measured by knowledge structure improvements both with and without a head mounted display but students using a HMD



showed statistically greater improvement in knowledge structures compared to those not using a HMD.

### **Virtual Reality Challenges in Education and Training- Volume 3, No. 1, March 2017- International Journal of Learning and Teaching(IJLT)**

URL: <http://www.ijlt.org/index.php?m=content&c=index&a=show&catid=122&id=557>

Publisher: ijlt.org

- The paper aims at performing a brief analysis of current VR challenges, and especially its application in education and training.

### **Virtual Reality And Augmented Reality In Education- eLearning Industry**

URL: <https://elearningindustry.com/virtual-reality-augmented-reality-education>

Publisher: elearningindustry.com

- We display a 3D object and we have a device called Leap Motion, which uses the Motion Capture technology to recognize the hand movement and to reposition the objects we see.
- It is another way to display content using technology and leveraging the strength of images".

### **Virtual Reality: THE Learning Aid Of The 21st Century**

URL: <https://www.forbes.com/sites/solrogers/2019/03/15/virtual-reality-the-learning-aid-of-the-21st-century/>

Publisher: forbes.com

- The results showed an 8.8 percent improvement overall in recall accuracy using the VR headsets
- Using a standalone VR headset, 360 degree videos and a student-friendly interface, children can explore the aftermath of a real disaster.
- Every day, we are seeing new ways that VR is facilitating learning and understanding through its unique properties.

### **Virtual Reality in Education - ClassVR**

URL: <https://www.classvr.com/virtual-reality-in-education/>

Publisher: classvr.com

- See how virtual and augmented reality can unlock potential, giving students new ways to experience learning and even create their own media.
- The ability to experience training in 360 is invaluable-- and imagine budding mechanics viewing a working engine from all angles without leaving the classroom.
- Vocational training will really begin to feel the impact of virtual and augmented reality over the next year or so.

### **People Recall Information Better Through Virtual Reality, Says New UMD Study**

URL: <https://umdrighnow.umd.edu/news/people-recall-information-better-through-virtual-reality-says-new-umd-study>

Publisher: umdrighnow.umd.edu

- Varshney leads several major research efforts on the UMD campus involving virtual and augmented reality, including close collaboration with health care professionals interested in developing AR-based diagnostic tools for emergency medicine and VR training for surgical residents.
- The UMD team believes this study will lay the groundwork for other scientific inquiry on the value of VR and AR for education.
- The results showed an 8.8 percent improvement overall in recall accuracy using the VR headsets, a statistically significant number according to the research team.

### **Immersive training systems: Virtual reality and education and training**

URL: <https://link.springer.com/article/10.1007/BF00896880>

Publisher: link.springer.com

- In Proceedings of 2nd Conference on Intelligent Computer Aided Training and Synthetic Environments, Houston, TX, May.
- Virtual Reality Technology.

### **CLEVR: Collaborative Learning Environments in Virtual Reality - MIT Scheller Teacher Education Program**

URL: <https://education.mit.edu/project/clevr/>

Publisher: education.mit.edu

- CHI 2018`` Novel Interaction Techniques for Collaboration in VR Workshop''.

### **20 Top Virtual Reality Apps that are Changing Education- The Tech Edvocate**

URL: <https://www.thetechedvocate.org/20-top-virtual-reality-apps-that-are-changing-education/>

Publisher: thetechedvocate.org

- Educationally, these VR apps allow students to visualize concepts that were confined to the pictures in a textbook.
- Though VR technology, 2D images become 3D and`` walk'' off the page.
- Check out these 20 VR apps that had a big impact in 2017.

### **(PDF) Reasons to Use Virtual Reality in Education and Training Courses and a Model to Determine When to Use Virtual Reality**

URL:

[https://www.researchgate.net/publication/268002587\\_Reasons\\_to\\_Use\\_Virtual\\_Reality\\_in\\_Education\\_and\\_Training\\_Courses\\_and\\_a\\_Model\\_to\\_Determine\\_When\\_to\\_Use\\_Virtual\\_Reality](https://www.researchgate.net/publication/268002587_Reasons_to_Use_Virtual_Reality_in_Education_and_Training_Courses_and_a_Model_to_Determine_When_to_Use_Virtual_Reality)

Publisher: researchgate.net

- Reasons to Use Virtual Reality in Education and Training Courses and a Model to Determine When to Use Virtual Reality
- of virtual reality for education and training in editions of The Handbook of Research

## **7 Best Educational Virtual Reality Apps| Getting Smart**

URL: <https://www.gettingsmart.com/2017/05/7-best-educational-virtual-reality-apps/>

Publisher: [gettingsmart.com](https://www.gettingsmart.com)

- According to the findings of a survey conducted by Extreme Networks in June 2016, 77% of 350 higher education and K-12 schools had not used VR in the classroom, and the top reasons for not utilizing the technology, according to 43% of the respondents, were the high cost of equipment and the difficulty in implementation.
- Revolving around the chemistry behind human emotion, InMind VR 2 is set inside the brain of John, a teenage boy.
- InMind VR 2 is compatible with View Master, Fibrium, Homido, Lakento, Archos, Durovis and other Cardboard headsets.

## **4 Inventive Examples Of Virtual Reality In Education| ARPost**

URL: <https://arpost.co/2019/12/04/4-inventive-examples-virtual-reality-education-learning/>

Publisher: [arpost.co](https://arpost.co)

- Gone are the days when VR technology was perceived as something created solely for games and entertainment.
- This way they eliminated the need for VR glasses, and created a group immersive experience.
- If virtual reality allows us to get to places like Mars, touring Earth-based museums is a piece of cake.

## **2020: The Year of AR and VR for Education and Training- EON Reality**

URL: <https://eonreality.com/2020-ar-vr-education-training-jamie-justice/>

Publisher: [eonreality.com](https://eonreality.com)

- The Year of AR and VR for Education and Training
- In the last few years, augmented reality has become commonplace as it has also been used in marketing and other game applications.
- There are several things that will dramatically change the opportunities and potential for AR and VR

## **Virtual Reality: a language teaching tool for today and tomorrow**

URL: <https://thepienews.com/the-view-from/virtual-reality-a-language-teaching-tool-for-today-and-tomorrow/>

Publisher: [thepienews.com](https://thepienews.com)

- News and business analysis for Professionals in International Education
- In VR you are virtually face-to-face, able to turn to your partner and talk

## **6 Inventive Examples Of Virtual Reality In Education| Built In**

URL: <https://builtin.com/edtech/virtual-reality-in-education>

Publisher: [builtin.com](https://builtin.com)

- With the help of rumii, social virtual reality software designed by Seattle-based Doghead Simulations, the students were working together as avatars in a VR-equipped classroom.
- Social VR applications like rumii may also help tackle the challenge of sky-high dropout rates for online courses by helping remote students feel more connected and less isolated.
- While the students also traveled to the Giza Plateau soon after their virtual classroom experience, that preliminary gathering sparked meaningful collaboration well beforehand, despite the 7,000-plus miles between them.

### **How Technology Is Changing the Future of Higher Education- The New York Times**

URL: <https://www.nytimes.com/2020/02/20/education/learning/education-technology.html>

Publisher: nytimes.com

- It is one of a small but growing number of places where experts are testing new ideas that will shape the future of a college education, using everything from blockchain networks to computer simulations to artificial intelligence, or A.I.
- Engineering students at the University of Michigan use an augmented-reality track to test autonomous vehicles in simulated traffic.
- Slightly less sophisticated simulations are being used in schools of education, where trainee teachers practice coping with simulated schoolchildren.

### **Exploring the Future of Augmented Reality& Virtual Reality in Higher Ed- Collegis Education – Higher Education Revenue Growth Management**

URL: <https://collegiseducation.com/news/technology/augmented-reality-and-virtual-reality-in-higher-ed/>

Publisher: collegiseducation.com

- Virtual reality has the ability to sever the learning experience from the students' physical environment, allowing for the kind of real-world learning that would n't otherwise be possible.
- As you can see, augmented reality offers its own unique advantages for virtual learning in higher education.
- Similar to VR, augmented reality holds rewarding possibilities for higher education.

### **Virtual Reality: A Tool for Improving the Teaching and Learning of Technology Education**

URL: <https://www.intechopen.com/books/virtual-reality-and-its-application-in-education/virtual-reality-a-tool-for-improving-the-teaching-and-learning-of-technology-education>

Publisher: intechopen.com

- But before then, some technologists were developing simulated environments.
- It is a simulation of a real or imagined environment that can be experienced visually in the three dimensions of width, height and depth and that may additionally provide an interactive experience visually in full real-time motion with sound and feedback-LSB-
- Virtual reality provides an opportunity to accurately and realistically simulate dangerous or risky situations and make them safe for learning before engaging in the real situation.

## **Osso VR- Virtual Reality Surgical Training Platform**

URL: <https://ossovr.com/>

Publisher: ossovr.com

- VR training will shorten the learning curve.
- This was an astounding revelation, especially considering advancements in technical training among other industries.
- It was during his medical training, that Dr. Barad realized that surgical training and assessment has not evolved as quickly as the devices themselves-- and has remained largely the same for the last 100 years.

## **Unimersiv: VR Training// Virtual Reality Education**

URL: <https://unimersiv.com/>

Publisher: unimersiv.com

- "Unimersiv and Cerevrum are examples of two such apps that offer an immense resource of educational VR content online."
- The Unimersiv app is available for free on the Rift, Gear VR, Daydream and Cardboard on Android.
- Unimersiv is the largest platform for VR educational experiences.

## **Reality or Virtual Reality? How VR is Changing the Educational Experience**

URL: <https://business.comcast.com/community/browse-all/details/reality-or-virtual-reality-how-vr-is-changing-the-educational-experience>

Publisher: business.comcast.com

- How VR is Changing the Educational Experience
- The network is a vital element in delivering an optimal virtual reality experience.
- No two virtual reality experiences are alike, due to users' ability to manipulate the content during the session.

## **Virtual Reality Development BFA Degree - Ringling College of Art+ Design**

URL: <https://www.ringling.edu/virtualreality/>

Publisher: ringling.edu

- Whether you create a safer work environment, champion social justice and reform, or help people recover from trauma, the VR medium will allow you to be a catalyst for positive change.
- Ringling students in other majors, such as the Business of Art and Design, also collaborated on the project.
- Our Collaboratory Commitment pairs teams of Ringling students with local businesses to give students a taste of real-world projects, expectations, and deadlines.

## **Schell Games' Virtual Reality Educational Tool HistoryMaker VR Now Available For Free**

URL: <https://www.eschoolnews.com/2020/10/26/schell-games-virtual-reality-educational-tool-historymaker-vr-now-available-for-free/>

Publisher: eschoolnews.com

- Schell Games' Virtual Reality Educational Tool HistoryMaker VR Now Available For Free

- With a majority of schools participating in distance learning this year, Schell Games announced its virtual reality education tool HistoryMaker VR is now available for
- This innovative application allows learners to display their knowledge of history, civics, and social studies, while offering educators and parents a new way to improve student engagement, increase lesson retention, and introduce an exciting alternative to textbooks and Zoom lectures.

### **Virtual Reality Educational Tool for Connecting Chemistry Lecture with Remote Laboratory Demonstrations**

URL:

[https://chemrxiv.org/articles/preprint/Virtual\\_Reality\\_Educational\\_Tool\\_for\\_Connecting\\_Chemistry\\_Lecture\\_with\\_Remote\\_Laboratory\\_Demonstrations/12040173/1](https://chemrxiv.org/articles/preprint/Virtual_Reality_Educational_Tool_for_Connecting_Chemistry_Lecture_with_Remote_Laboratory_Demonstrations/12040173/1)

Publisher: chemrxiv.org

- a virtual reality chemical educational tool that provides in situ user experience on research equipment to a large classroom.
- Moreover, the VR educational tool can also provide an immersive experience on laboratory demonstrations to the general audience for outreach, without the constraint from safety concerns.
- The VR educational tool consists of a VR camera in the laboratory attached to a teaching assistant who performs the experiment and many virtual reality playing devices in a classroom watched by students.

### **Augmented Reality and Virtual Reality in School Education- eLearning**

URL: <https://elearning.adobe.com/2020/01/augmented-reality-and-virtual-reality-in-school-education/>

Publisher: elearning.adobe.com

- Benefits of AR and VR for Students
- This can be improved with the help of AR and VR as teachers are actively involved in the process.
- Augmented reality and virtual reality help students understand abstract topics in a better way which can not be done with traditional methods of teaching.

### **Research: How Virtual Reality Can Help Train Surgeons**

URL: <https://hbr.org/2019/10/research-how-virtual-reality-can-help-train-surgeons>

Publisher: hbr.org

- Or do these differences point toward discrepancies in the clinical scenarios and the level of autonomy that each surgeon experienced in training?
- As measured by the Global Assessment Five-Point Rating Scale, participants in the VR group received significantly higher ratings in all categories compared to the traditionally-trained group, with an overall improvement of 230% in the total score.
- VR-trained participants completed the procedure an average of 20% faster than the traditionally-trained group.

### **Virtual reality aids in environmental education| Stanford News**

URL: <https://news.stanford.edu/2018/11/30/virtual-reality-aids-environmental-education/>

Publisher: news.stanford.edu

- Researchers at Stanford and the University of Oregon discovered that VR can be a powerful tool for improving environmental learning gains and attitudes.
- researchers at Stanford and the University of Oregon discovered that VR can be a powerful tool for improving environmental learning gains and attitudes.
- With the advent of affordable consumer-grade gear from companies such as Oculus Rift, Samsung and Microsoft, potential audiences for VR are expanding far beyond Stanford's multimillion-dollar Virtual Human Interaction Lab.

### **Virtual Reality Applications in Transportation Design Education**

URL: [https://www.autodesk.com/autodesk-university/fr/forged-content/au\\_class-urn%3Aadsk.content%3Acontent%3Acb2ba15f-633e-481f-98e4-bc3047a4526d](https://www.autodesk.com/autodesk-university/fr/forged-content/au_class-urn%3Aadsk.content%3Acontent%3Acb2ba15f-633e-481f-98e4-bc3047a4526d)

Publisher: autodesk.com

- This session will discuss the use of VR software and Maya software for initial exploration, as well as VRED software for visualization of vehicle concepts using the HTC Vibe.

### **New Possibilities for Hands-on Learning, Credentialing During Pandemic with Augmented and Virtual Reality Technology**

URL: <https://www.yahoo.com/now/possibilities-hands-learning-credentialing-during-161000995.html>

Publisher: yahoo.com

- New Possibilities for Hands-on Learning, Credentialing During Pandemic with Augmented and Virtual Reality Technology
- We have grown to become a leading technology and media company that strives to provide the very best in wireless, residential, sports, and media to Canadians and Canadian businesses.
- Epic Staffing Group announced recently that three of its business units have been named as a Best Staffing Firm to Work For winner for 2021

### **A review of the use of virtual reality head-mounted displays in education and training**

URL: <https://link.springer.com/article/10.1007/s10639-017-9676-0>

Publisher: link.springer.com

- A review of the use of virtual reality head-mounted displays in education and training
- A systematic review of surgical skills transfer after simulation-based training
- Outside of these situations the HMDs had no advantage when compared to less immersive technologies or traditional instruction and in some cases even proved counterproductive because of widespread cybersickness, technological challenges, or because the immersive experience distracted from the learning task.

### **Hands-on with augmented reality in remote classrooms- Purdue University News**

URL: <https://www.purdue.edu/newsroom/releases/2020/Q2/hands-on-with-augmented-reality-in-remote-classrooms.html>

Publisher: purdue.edu

- Hands-on with augmented reality in remote classrooms.
- The cost and difficulty make it impossible for most educators to teach in AR.



- A team led by Purdue University has built an app platform called MetaAR, enabling students and teachers to collaborate easily using augmented reality.

### **Virtual Reality in K-12 Education: How Helpful Is It?**

URL: <https://www.govtech.com/education/k-12/Virtual-Reality-in-K-12-Education-Is-It-Really-Helpful.html>

Publisher: govtech.com

- And that's just the beginning of the possibilities that VR offers.
- The opportunities do n't end with VR.
- the Guggenheim Museum VR lets students replicate a walkthrough of the famous New York art museum's galleries.

### **Virtual Reality offers education benefits, recreation opportunities for CSC students**

URL: [https://starherald.com/news/local\\_news\\_briefs/virtual-reality-offers-education-benefits-recreation-opportunities-for-csc-students/article\\_663230b2-eece-5b67-8b5d-afd3b79d87d8.html](https://starherald.com/news/local_news_briefs/virtual-reality-offers-education-benefits-recreation-opportunities-for-csc-students/article_663230b2-eece-5b67-8b5d-afd3b79d87d8.html)

Publisher: starherald.com

- Chapman is an education major learning how virtual reality systems can be used in the classroom.
- Helm is an education major learning how virtual reality systems can be used in the classroom.

### **10 Benefits of Virtual Reality in Education Driving Future of EdTech**

URL: <https://opengeekslab.medium.com/10-benefits-of-virtual-reality-in-education-driving-future-of-edtech-16750212e0d6>

Publisher: opengeekslab.medium.com

- Virtual reality education apps help identify students' specific learning needs, make a way of explaining confusing statements easier, enhance students' engagement.

### **The Impact of an Augmented Reality Application on Learning Motivation of Students**

URL: <https://www.hindawi.com/journals/ahci/2019/7208494/>

Publisher: hindawi.com

- The educational value of AR is closely linked to the way in which it is designed, implemented, and integrated into formal and informal learning environments-LSB-

### **Virtual Reality(VR) in Education Market Size, Research, Growth Report 2026**

URL: <https://www.fortunebusinessinsights.com/industry-reports/virtual-reality-in-education-market-101696>

Publisher: fortunebusinessinsights.com

- Furthermore, the adoption of a virtual learning environment has offered a range of benefits over the traditional learning environment in the education sector including flexible schedule, more individual accountability, mobility, student-centered learning, and others.

### **Bring your lessons to life with Expeditions| Google for Education**

URL: <https://edu.google.com/products/vr-ar/expeditions/>

Publisher: edu.google.com

- The Google for Education team is committed to supporting teaching and learning from anywhere, at any time, on any device.

### **How Virtual Reality Is Transforming Education Tech And Training- CB Insights Research**

URL: <https://www.cbinsights.com/research/virtual-reality-education-training-tech/>

Publisher: cbinsights.com

- From professional sports to foreign languages, virtual reality can help foster more meaningful educational experiences for learners of all ages.

### **Virtual and Augmented Reality for Education and Training**

URL: <https://www.frontiersin.org/research-topics/4570/virtual-and-augmented-reality-for-education-and-training>

Publisher: frontiersin.org

- 3D interactions for training • Augmented environments for learning • Game-based learning • Modeling and simulation for instructional purposes • MR-based education or training • MR classrooms • Presence and learning • Serious games • Simulation-based training • Virtual environments for learning • Virtual tutors

### **New Frontiers: The Growing Impact of Virtual Reality in Education**

URL: <https://www.schoology.com/blog/new-frontiers-growing-impact-virtual-reality-education>

Publisher: schoology.com

- However, the big question that remains is how to implement this new capability to its optimal learning potential as a multi-sensory educational tool.

### **Augmented Versus Virtual Reality in Education: An Exploratory Study Examining Science**

Knowledge Retention When Using Augmented Reality/Virtual Reality Mobile Applications

URL: <https://www.liebertpub.com/doi/10.1089/cyber.2018.0150>

Publisher: liebertpub.com

- The goal of this research was to provide insights into the possible psychological and theoretical mechanisms with a focus on the role of presence that has been used to account for the impacts of educational technologies on learning outcomes-LRB- e.g., Wood and Cifuentes

### **How Virtual Reality Is Changing Education | LSU Online**

URL: <https://online.lsu.edu/newsroom/articles/how-virtual-reality-changing-education/>

Publisher: online.lsu.edu

- Cameras that offer 360-degree recording and new apps such as Google Expeditions have brought VR into the classroom, creating opportunities for teachers and students to approach education like never before.
- Educators can increase visual learners' comprehension of educational content.

### **Immersive VR Education| Learn through Experience | Home**

URL: <https://immersivevreducation.com/>

Publisher: [immersivereeducation.com](https://immersivereeducation.com)

- We believe that people learn through experiences and this is done by creating immersive, memorable moments.

### **Virtual Reality Creates New Worlds for Education Students**

URL: <https://www.ithaca.edu/news/virtual-reality-creates-new-worlds-education-students>

Publisher: [ithaca.edu](https://www.ithaca.edu)

- In fact, the four educators recently presented at the Learning Research Network 2020 Conference, sharing their ideas with other leaders in the field.

### **How Virtual Reality Can Help Students Meet Learning Goals**

URL: <https://edtechmagazine.com/k12/article/2020/02/how-virtual-reality-can-help-students-meet-learning-goals>

Publisher: [edtechmagazine.com](https://edtechmagazine.com)

- Spike went over several categories of VR apps that can help educators enhance student learning, such as collaborative design, VR creation, storytelling and even public speaking.

### **3D learning objects for augmented/virtual reality educational ecosystems**

URL: <https://ieeexplore.ieee.org/document/8346266>

Publisher: [ieeexplore.ieee.org](https://ieeexplore.ieee.org)

- 3D learning objects for augmented/virtual reality educational ecosystems

### **Virtual Reality in Educational Settings - CIRCL**

URL: <https://circlcenter.org/virtual-reality-in-educational-settings/>

Publisher: [circlcenter.org](https://circlcenter.org)

- Based on this idea, a foundational principle for using VR in educational settings is to leverage known learning science mechanisms as part of VR activities.

### **6 Considerations For Adapting Virtual Reality In Education**

URL: <https://www.teachthought.com/technology/6-considerations-quality-virtual-reality-education/>

Publisher: [teachthought.com](https://www.teachthought.com)

- Specifically, it immerses students in their learning more than any other available medium.
- Curriculum rooted in standards to ensure learning is not occurring in a vacuum and aligns to the district's existing pedagogy.

### **Role of Virtual Reality in Education**

URL: <https://eturbonews.com/174015/role-virtual-reality-education/>

Publisher: [eturbonews.com](https://eturbonews.com)

- Virtual reality in medical education engaged interactive learning experiences for medical students.

### **Augmented Reality in Education: The Hottest EdTech Trend and How to Apply It to Your Business**

URL: <https://easternpeak.com/blog/augmented-reality-in-education-the-hottest-edtech-trend-and-how-to-apply-it-to-your-business/>

Publisher: easternpeak.com

- Augmented reality in medical education is usually applied to help learners study through interactive visual representations, create simulations and train medical students, and practice surgery or other medical procedures on virtual patients.

### **Impact of Virtual Reality on Education**

URL: <https://www.linkedin.com/pulse/impact-virtual-reality-education-parag-diwan>

Publisher: linkedin.com

- of education and allow students to learn while having fun.

### **Virtual Reality and Learning: The Newest Landscape for Higher Education**

URL: <https://www.wired.com/insights/2013/12/virtual-reality-and-learning-the-newest-landscape-for-higher-education/>

Publisher: wired.com

- In recent years, online learning has changed the face of education by becoming a supplement to traditional methods, allowing people to learn at a distance, on their own time and at their own pace.
- It has become a powerful tool for educators to expand their reach while providing students with a way to get an education without having to step foot into a classroom.
- Virtual learning will open the doors for people to access the best kind of education by blending together the best of the real world, the best of the internet and online applications, and the best of the virtual world technology so that the most modern techniques are utilized to obtain that education.

### **Benefits Of Using Virtual Reality In The Classroom- ReadWrite**

URL: <https://readwrite.com/2018/03/20/benefits-using-virtual-reality-classroom/>

Publisher: readwrite.com

- Wearing VR headset, students can experience high-quality educational visualizations that have a positive impact on the whole learning process.

### **Virtual Reality: The Next Generation Of Education, Learning and Training – VR/AR Association- The VRARA**

URL: <https://www.thevrara.com/blog2/2017/12/13/virtual-reality-the-next-generation-of-education-learning-and-training>

Publisher: thevrara.com

- The basic functionality of VR in education is to bring learning to life via a virtual environment.
- The more a learner is able to participate in life-like engagement, the easier it is to personally feel a connection to the subject material, making it easier for application and retention of the subject matter.

## **The Impact of Virtual Reality on Education | Engadget**

URL: <https://www.engadget.com/2016-05-12-the-impact-of-virtual-reality-on-education.html>

Publisher: engadget.com

- Education is traditionally slow to adapt to new learning methodology, requiring compelling reasons to move away from the

## **Pros and Cons of Using Virtual Reality in Education| LITSLINK Blog**

URL: <https://litslink.com/blog/usage-of-virtual-reality-in-education-pros-and-cons>

Publisher: litslink.com

- The primary objective of virtual reality in education is to simplify the learning experience by making it practical and exciting to students.
- Therefore, VR education apps help the learners get better opportunities for adequate academic training.
- Ultimately, it greatly impacts the quality of education across the board.

## **Augmented reality in the classroom: 8 ideas for digitizing education& training**

URL: <https://overlyapp.com/blog/augmented-reality-in-the-classroom-ideas-for-digitizing-education-and-training/>

Publisher: overlyapp.com

- I see a formal push across borders for conventional education providers to tech-up their offer.

## **How VR Education Will Change How We Learn& Teach**

URL: <https://xd.adobe.com/ideas/principles/emerging-technology/virtual-reality-will-change-learn-teach/>

Publisher: xd.adobe.com

- With VR education, learners are inspired to discover for themselves.

## **Neverland Virtual Reality: Home**

URL: <https://neverlandvr.com/>

Publisher: neverlandvr.com

- Visit our VR for Education page to learn more.

## **Learning With Virtual Reality in Nursing Education...- JMIR Nursing**

URL: <https://nursing.jmir.org/2020/1/e20249/>

Publisher: nursing.jmir.org

- Hellriegel and Čubela-LSB- 16-RSB- see the potential learning success of VR in the field of education.

## **2019 IEEE VR Fourth Workshop on K-12+ Embodied Learning through Virtual& Augmented Reality(KELVAR)- IEEE KELVAR Workshop**

URL: <https://sites.google.com/site/vrkelvar/vr2019>

Publisher: sites.google.com

- Much of the focus of AR and VR in education has been on leveraging the power of immersive technology to create focused learning experiences centered on specific content, in areas as diverse as architecture, engineering, informal cultural education, and science.

## **6 Benefits and 5 Examples of Augmented Reality in Education**

URL: <https://www.viewsonic.com/library/education/6-benefits-and-5-examples-of-augmented-reality-in-education/>

Publisher: viewsonic.com

- Through augmented reality, educators are able to improve learning outcomes through increased engagement and interactivity.
- Augmented Reality in education features aspects that enhance learning of abilities like problem-solving, collaboration, and creation to better prepare students for the future.

## **Virtual reality and the transformation of medical education**

URL: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6798020/>

Publisher: ncbi.nlm.nih.gov

- Though VR is not a panacea, it is a powerful educational tool for defined learning objectives and implementation is growing worldwide.

## **Education Student Perceptions of Virtual Reality as a Learning Tool- Jelia R. Domingo, Elizabeth Gates Bradley, 2018**

URL: <https://journals.sagepub.com/doi/full/10.1177/0047239517736873>

Publisher: journals.sagepub.com

- Education Student Perceptions of Virtual Reality as a Learning Tool

## **Virtual Reality for Health...- Journal of Medical Internet Research**

URL: <https://www.jmir.org/2019/1/e12959/>

Publisher: jmir.org

- This can be defined as the level of approval when comparing the perceived performance of digital education with one's expectations.
- Control group interventions ranged from traditional learning to other digital education interventions and other forms of VR.

## **Virtual Reality in Higher Education: A Case Study at the Air University's Squadron Officer College**

URL: <https://etd.auburn.edu/handle/10415/5710>

Publisher: etd.auburn.edu

- The researcher promotes development of a specific multi-participant social learning platform to be known as the Virtual Reality Educational Experience which engages multiple participants simultaneously in educational content.

## **Bringing virtual and augmented reality to school| Google for Education**

URL: <https://edu.google.com/products/vr-ar/>

Publisher: edu.google.com

- The Google for Education team is committed to supporting teaching and learning from anywhere, at any time, on any device.

### **Higher Ed Needs a Long-Term Plan for Virtual Learning**

URL: <https://hbr.org/2020/05/higher-ed-needs-a-long-term-plan-for-virtual-learning>

Publisher: hbr.org

- Educators, faced with unprecedented urgency, are working hard to restore teaching and learning using technology, innovation, and collaboration.
- We've developed the following framework to help universities identify where digital learning fits into their education ecosystem and, with that knowledge, transform their teaching and learning in response to Covid-19.

### **Augmented and Virtual Reality for Industrial Applications**

URL: <https://phd.nat.au.dk/for-applicants/apply-here/may-2021/augmented-and-virtual-reality-for-industrial-applications/>

Publisher: phd.nat.au.dk

- The purpose of this track is to accelerate education and lifelong learning among current and future employees in the Danish manufacturing industry through the application of Mixed Reality learning technologies and modern learning methods.

### **10 Amazing Uses of Virtual Reality**

URL: <https://readwrite.com/2018/11/08/10-amazing-uses-of-virtual-reality/>

Publisher: readwrite.com

- With this use of virtual reality in education, medical students can learn how to conduct delicate surgical procedures.

### **VR, AR, MR: Which Reality Technology to Choose for Your Business in 2020**

URL: <https://rubygarage.org/blog/difference-between-ar-vr-mr>

Publisher: rubygarage.org

- VR learning content can revolutionize education, making learning immersive and more engaging.

### **Augmented reality for the web| Web| Google Developers**

URL: <https://developers.google.com/web/updates/2018/06/ar-for-the-web>

Publisher: developers.google.com

- For example, it can help people learn on education sites, and allow potential buyers to visualize objects in their home while shopping.