

Smart Medicine – Harnessing Augmented Reality and AI to Transform Health

Analysis by [Dr. Joseph Mercola](#)

June 29, 2024

STORY AT-A-GLANCE

- › While some view artificial intelligence as a frightening harbinger of human obsolescence, it has the potential to help us explore the full extent of our creative potential and enhance how we understand health
- › ChatGPT is just one innovative technology being harnessed to enhance healthcare. Augmented reality has also shown promise as a teaching tool
- › Conversational AI models like ChatGPT allow unprecedented access to an incredible pipeline of medical information
- › By understanding how ChatGPT works and continuing to ask it questions to clarify confusing topics, you have a universe of knowledge at your fingertips
- › A major weakness of current AI models is the potential for bias. We are working on our own AI teaching tool which will redefine how you can learn and apply important health information in your life

Many worry that artificial intelligence (AI) and augmented reality (AR) will bring unprecedented changes that people are not prepared for. The applications for AI are seemingly endless, and there are concerns that it will replace humans in the workforce.

Goldman Sachs¹ estimates that AI could replace the equivalent of 300 million full-time jobs while raising global GDP by 7%. Time will tell whether these predictions are true, but

the inevitable surge in knowledge, efficiency and enhanced performance will without doubt have a transformative impact.

Technologies like AI and AR hold the potential to revolutionize healthcare in particular by analyzing complex information and augmenting the capabilities of medical professionals. They make it possible to process vast amounts of data accurately and swiftly,² which can lead to significant advancements in diagnosis and treatment by medical professionals.

You can also benefit from the **transformative power of AI** personally. It is a powerful platform for obtaining and synthesizing complex information and concepts that might otherwise have taken you hours, days or weeks to research on your own.

Differences Between Augmented Reality, Virtual Reality and Artificial Intelligence

AR overlays digital information onto the real world, enhancing the user's interaction with their environment. AR operates through the use of devices like smart phones and tablets, combined with specialized glasses. AR is fundamentally different than Virtual Reality (VR), which is a completely virtual environment. While you may be familiar with VR and AR, this technology has been overshadowed by the more widely available AI platforms.

ChatGPT is an advanced conversational AI model developed by OpenAI. It was designed to understand and generate human language. As a large language model (LLM), it is trained on vast amounts of text data and uses advanced algorithms to predict and produce coherent and contextually relevant responses. Current AI technology excels in tasks like text translation, summarization and conversational interactions.

ChatGPT can be viewed like a pipeline, able to channel vast amounts of information and insights. Used efficiently, it can do the basic grunt work, enabling you to focus on more uniquely human attributes like strategic thinking and creativity. In the context of medical

treatment and education, AI tools can provide feedback, answer advanced questions, simulate patient interactions and provide a powerful tutoring tool.

Augmented Reality and Medical Education

For example, AR is revolutionizing anatomy training in medical schools by providing immersive, interactive and personalized learning experiences.³ AR-based programs generally fall into two categories. There are treatment programs and training programs.

Treatment programs can be directly used in clinical and hospital settings to help medical practitioners and patients, while training programs are designed for an academic setting to further medical education.⁴ An integrated AR-application, compatible device and AR glasses are required to use these applications.

As the technology continues to evolve, there are countless possibilities for the further integration of AR. Instead of silicone or physical models, educators can guide students through detailed anatomy lessons on their smart phone or tablet. There are also free AR applications online, such as visiblebody.com. AR can provide a deep and contextualized education with the use auditory, haptic and even olfactory feedback.⁵

Using AR technology, students can visualize multiple anatomical structures at once. Pointing their camera at a specific spot can magnify the area and layers can be removed with an intuitive dissect button. Unlike with a cadaver or a live patient, a click of the undo button can revert the changes.⁶

Future advancements could include even more sophisticated simulations of complex surgical procedure and real-time AR overlays during actual surgeries. Researchers and developers continue to push the boundaries of AR technology, making it perfect for delivering a customized and curated education on the human anatomy for medical students.

AI Can Be a Valuable Aid for Doctors and Patients

The application of AI in healthcare extends beyond training and education; it also holds immense promise as a valuable aid for both doctors and patients. AI-driven diagnostic tools can assist physicians in identifying diseases more quickly and accurately, reducing the likelihood of misdiagnosis and enabling timely interventions.

For instance, AI algorithms capable of analyzing medical images can detect anomalies that might be missed by the human eye, thereby enhancing the diagnostic process.⁷ AI can also facilitate patients' participation in their own healthcare.

By providing easily accessible and understandable information about their health conditions, treatment options and potential outcomes, AI empowers patients to make better-informed decisions. This can lead to more effective patient-doctor collaborations and improved treatment adherence.

How to Use ChatGPT to Enhance Your Understanding of Health and Wellness

One of the best uses of ChatGPT and other LLMs is in self education. It's extremely effective at providing concise information that can be further refined by your follow-up questions. Take for example the Randle Cycle, which is a complex medical concept and crucial to understanding how your body fuels itself. Start by asking ChatGPT, "What is the Randle Cycle?"

ChatGPT will respond to this and most complex questions with a quick summary of the Randle Cycle, followed by multiple numbered points that with more detailed information.

ChatGPT Says: *Randle cycle, also known as the glucose-fatty acid cycle or the glucose-fatty acid cycle hypothesis, is a metabolic regulatory mechanism that describes the interaction between glucose and fatty acids as fuel sources in the human body.*

Once this basic framework of a response has been provided, you can hammer away with follow-up questions about any aspect of the response you find confusing. This includes

specific terminology, recommendations and additional information.

For instance, ChatGPT can immediately provide an explanation of what "fuel for the human body" actually means and open up entirely new avenues to explore nutrition. It will be just as fast on the draw outlining what a "metabolic regulatory mechanism" is.

Are You Skeptical About AI?

Skepticism of a disruptive technology such as AI and ChatGPT being used to further consolidate power in the hands of a few are to be expected. **Globalist cabals like the WHO** aim to take over health systems worldwide. But this is no reason to deny yourself access to this powerful tool.

I have benefited greatly from its use as a tool to help me understand important medical concepts. It can provide instant access to information, aid in the composition of essays and reports, assist in language learning and offer explanations of complex concepts, especially in health, biology and medicine. This capability enhances your learning experience, making it more interactive, personalized and accessible.

In the context of employment, when properly harnessed it frees up bandwidth to accomplish so much more, drastically reducing the time and effort it takes to find information that will help you accomplish your goals. Rather than fearing your own obsolescence, I suggest approaching AI with the mindset that it's a tool that can help you improve your own knowledge base, health and work.

How to Protect Your Privacy When Using LLMs

That said, you'd be wise to take precautions to protect your privacy when using AI's like ChatGPT and other LLMs. Here are some precautions to consider.

- **Protect your privacy** — Never share personal or confidential information about yourself or others. You consent to data gathering when accepting OpenAI's privacy policy.

- **Log in using a throwaway email address** – ChatGPT also stores the email address you use when logging in.
- **Find out your employer's use policy** – Due to the privacy risks, some companies and government agencies are prohibiting the use of ChatGPT on its networks.
- **ChatGPT may hallucinate (fabricate information)** – To minimize this risk, ask it to provide source links and verify the accuracy of the information given. Also, do not rely on ChatGPT-generated information in cases where doing so might have catastrophic consequences.
- **Be aware of the open legal questions concerning intellectual property** – Open AI's terms of service states that the output belongs to the provider of the input, but issues may arise when the output includes legally protected data sourced from other inputs.

Working Through the Built-In Bias of ChatGPT

Unfortunately, the ChatGPT platform falls a bit flat when it comes to educating you about healthier habits and alternative health modalities. The LLM draws from a vast supply of sources, and when prioritizing sources to cite, ChatGPT is supposed to focus on credibility, currency, relevance, objectivity, peer review, diversity of perspectives, accessibility and consistency with previous research.

While that sounds reasonable, it gives undue weight to what can be described as "establishment science," which isn't necessarily the best science out there. ChatGPT responds as if sources like the CDC and World Health Organization are acting in good faith and their research is authoritative, when in fact neither are an accurate description of reality.

So, don't be surprised when responses and recommendations from ChatGPT mirror mainstream advice. This is why I do not recommend using ChatGPT for actual health recommendations. Instead, focus on its ability to help you understand your own biology.

Soon you will have an even better tool at your disposal that will actually be able to provide you with health recommendations. We are working on a novel AI-driven teaching program that I believe will revolutionize health education by locating the most credible sources and ignoring the boilerplate, government sanctioned responses that have destroyed the health of millions.

This will make it the most up-to-date and powerful health teaching tool ever to exist. In the meantime, I encourage you to familiarize yourself with LLMs like ChatGPT – just beware of their limitations.

Sources and References

- ¹ [Goldman Sachs, April 5, 2023](#)
- ² [Diagnostics \(Basel\), 2023 Feb; 13\(4\): 688](#)
- ^{3, 4, 5, 6} [News Medical Life Sciences, Augmented Reality in Anatomy Education and Training](#)
- ⁷ [Health Information Science and Systems, 2023 Dec; 11\(1\):20](#)