ACP RecoverX Webinar

Making AI Trustworthy and Referenceable for Clinical Applications

June 8, 2023

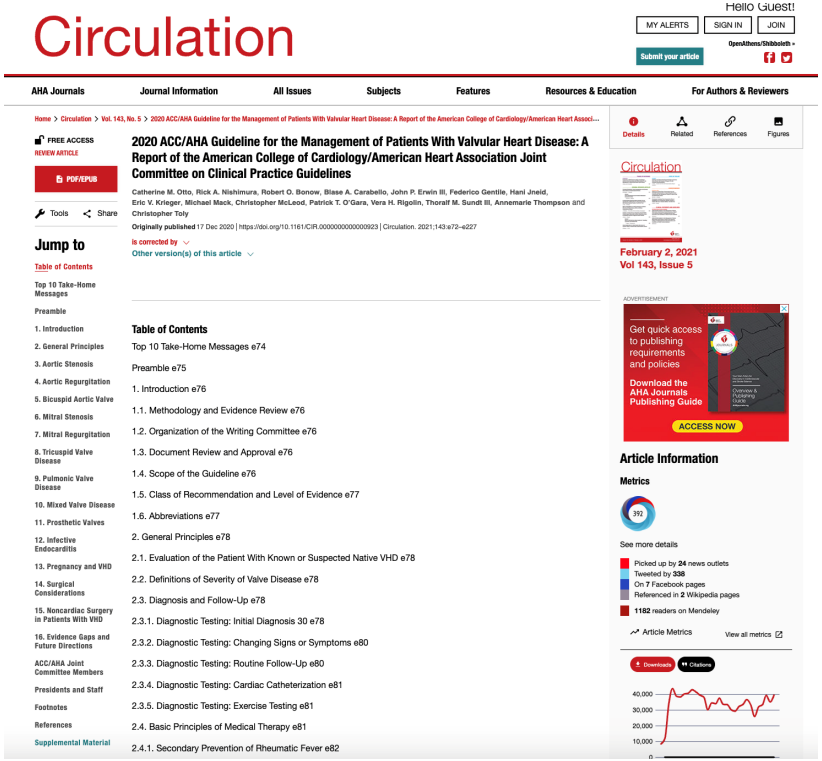
Agenda

- **Introduction to RecoverX**
- Demo of Clinical Copilot
- Overview of AI and Generative AI
- Discussion on opportunities and challenges of AI from a physician perspective

RecoverX's mission is to maximize impact from medical knowledge and ensure healthcare AI is trustworthy

- RecoverX is a Health2047/American Medical Association backed startup
- Our mission is to enable organizations to maximize impact from medical knowledge and to support the scaling of equitable, science-based healthcare
- We're building a healthcare industry platform for computational evidence and reliable, referenceable AI
- Multi-discipline team with prior leadership roles at Intel, UCSF, NYU Langone, Pfizer, MIT, Allscripts and Arthur D. Little

Documents form the core of medical knowledge distribution



In a post Generative AI world we need AI to be reliable

The NEW ENGLAND JOURNAL of MEDICINE

SPECIAL REPORT

Jeffrey M. Drazen, M.D., *Editor;*
Isaac S. Kohane, M.D., Ph.D., and Tze-Yun Leong, Ph.D., *Guest Editors*

AI IN MEDICINE

Benefits, Limits, and Risks of GPT-4 as an AI Chatbot for Medicine

Peter Lee, Ph.D., Sebastien Bubeck, Ph.D., and Joseph Petro, M.S., M.Eng.

The uses of artificial intelligence (AI) in medicine have been growing in many areas, including in the analysis of medical images,[1] the detection of drug interactions,[2] the identification of high-risk patients,[3] and the coding of medical notes.[4] Several such uses of AI are the topics of the "AI in Medicine" review article series that debuts in this issue of the *Journal*. Here we describe another type of AI, the medical AI chatbot.

"prompt engineering," which is both an art and a science. Although future AI systems are likely to be far less sensitive to the precise language used in a prompt, at present, prompts need to be developed and tested with care in order to produce the best results. At the most basic level, if a prompt is a question or request that has a firm answer, perhaps from a documented source on the Internet or through a simple logical or mathematical calculation, the responses produced by

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Demo of RecoverX Clinical Copilot

- **Demonstration of society-referenced computational knowledge in action and controlling GPT-4**

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There are many different types of AI: Some examples (not exhaustive!)

Narrow AI (or "Weak" AI): Systems designed to perform specific tasks e.g. image recognition.

General AI (Strong AI): "Artificial General Intelligence" refers to AI systems that exhibit human like intelligence and can understand, learn, and apply knowledge across various domains. Still largely theoretical.

Machine Learning (ML): A subset of AI that learns from data without being explicitly programmed

Deep Learning (DL) : A type of ML that utilizes artificial neural networks (ANNs) to learn from vast amounts of data.

Reinforcement Learning (RL): Trains an AI agent to achieve a goal using rewards or penalties based on its behavior, commonly used in robotics, gaming, and autonomous systems.

Large Language Models (LLMs): A type of Generative AI combining deep learning and often RL, used to generate responses from inputs e.g. answering questions, summarizing texts or generating images.

Generative AI - key points

1. **Large Language Models** like GPT-4, Med-PaLM, Claude etc predict the next word in response to an input*
2. **Trained on vast amount of content and human feedback**
3. **Multiple use cases** including question answering and interfacing with other AI models and systems
4. **Can combine with external content** by searching and retrieving from external sources
5. **Powerful and useful technology with multiple applications**
6. **However, can be unreliable, prone to hallucination, false references, and does not "learn with use"**
7. **Suggested reading :** https://writings.stephenwolfram.com/2023/02/what-is-chatgpt-doing-and-why-does-it-work/

* Generative AI can be multimodal working with text, video, voice etc.

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Clinical Copilot

Beta program sign-up link

- http://register.recoverx.com
- Program Code: ACP68

RecoverX. Referenced AI for the healthcare system.

RecoverX is a healthcare AI and computational evidence company.