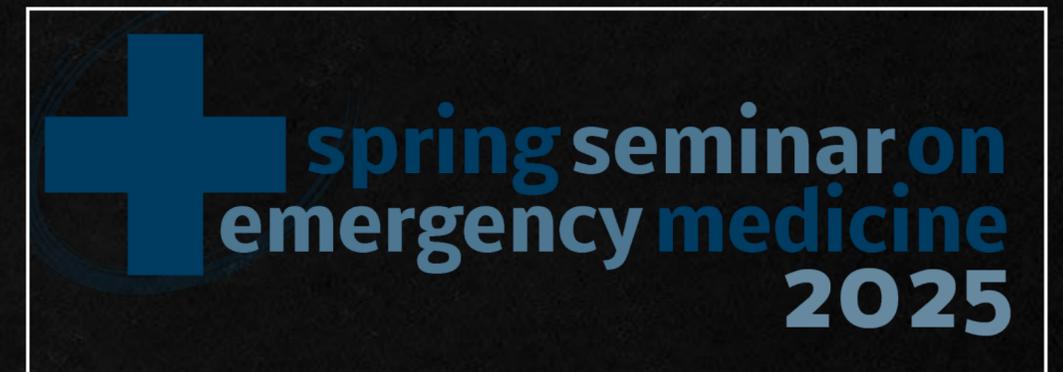


# Artificial Intelligence for Medical Education



**Remember...All I'm offering  
is the truth, nothing more.**

# Dr. Ken Milne @TheSGEM

No grants or consulting fees

Senior Editor of AEM

No funding from pharma or medical device industry

Expert for medical malpractice

Patent on pediatric resuscitation device

# Objectives

**Define AI**  
**AI Milestones**  
**KT Problem**  
**AI MedEd**  
**Demonstration**

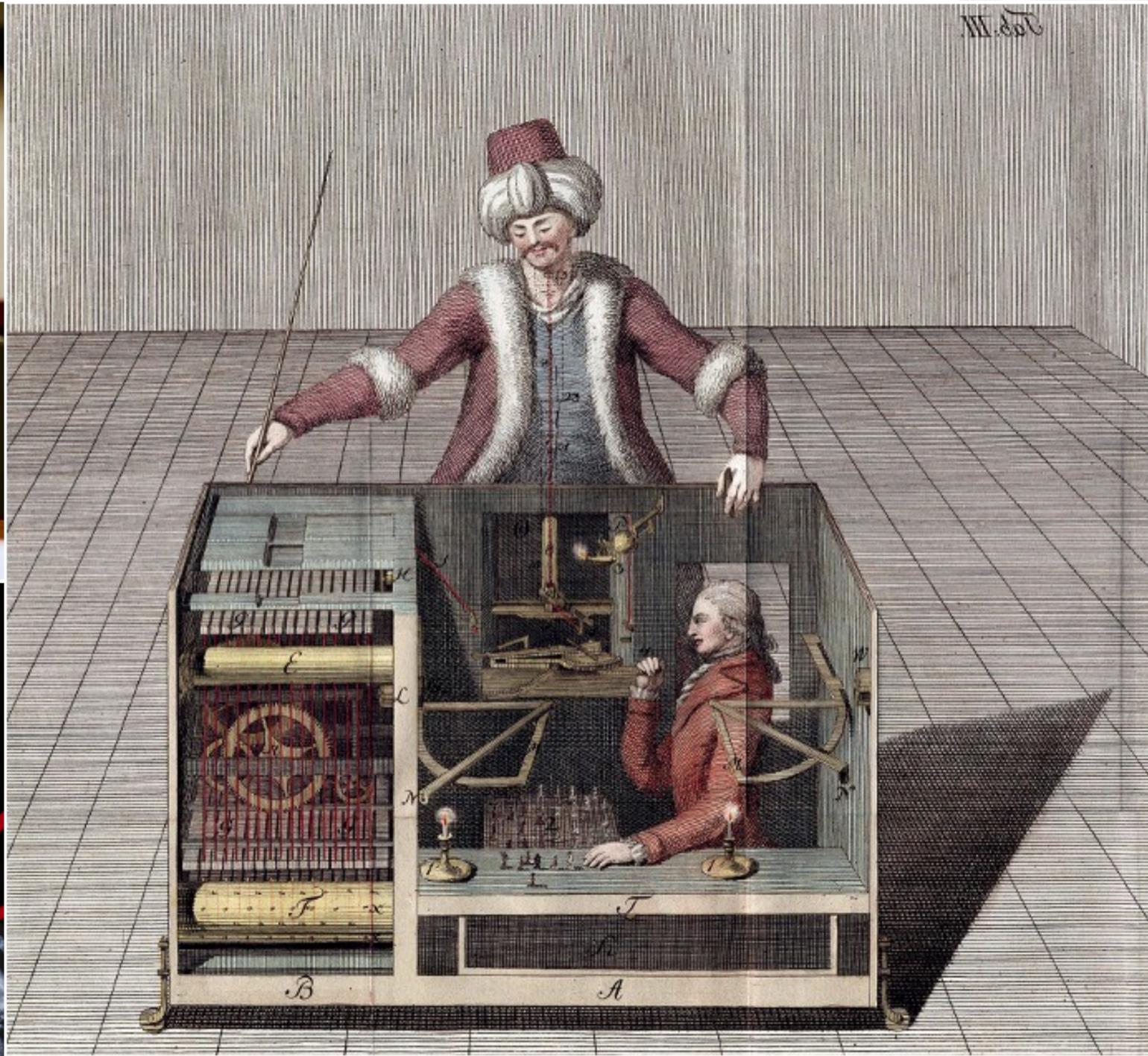


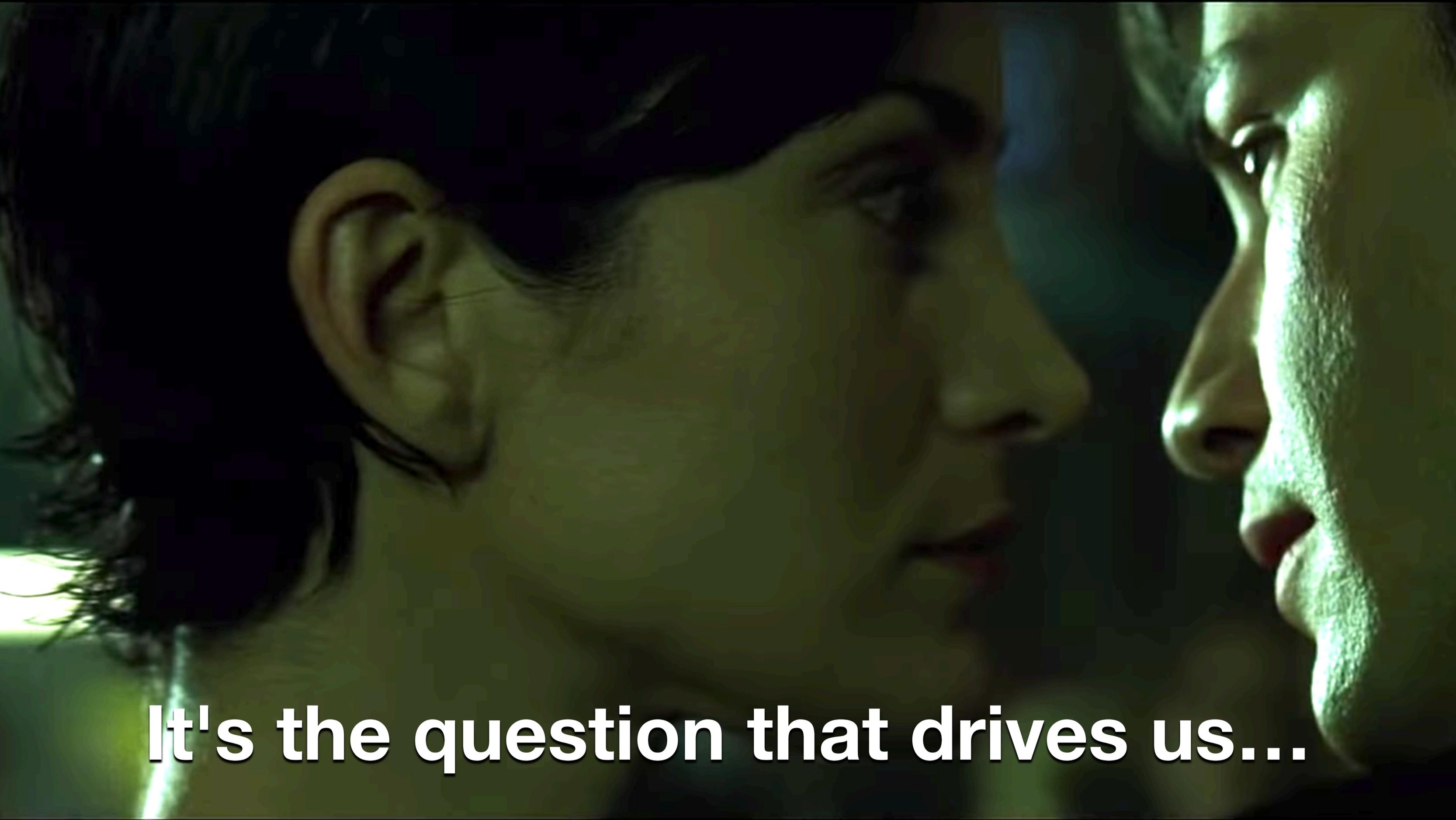
A.I.

*“The science and engineering of making intelligent machines.”*

*John McCarthy 1955*

# Fear of AI: How Old Are You?





**It's the question that drives us...**

# What is AI?

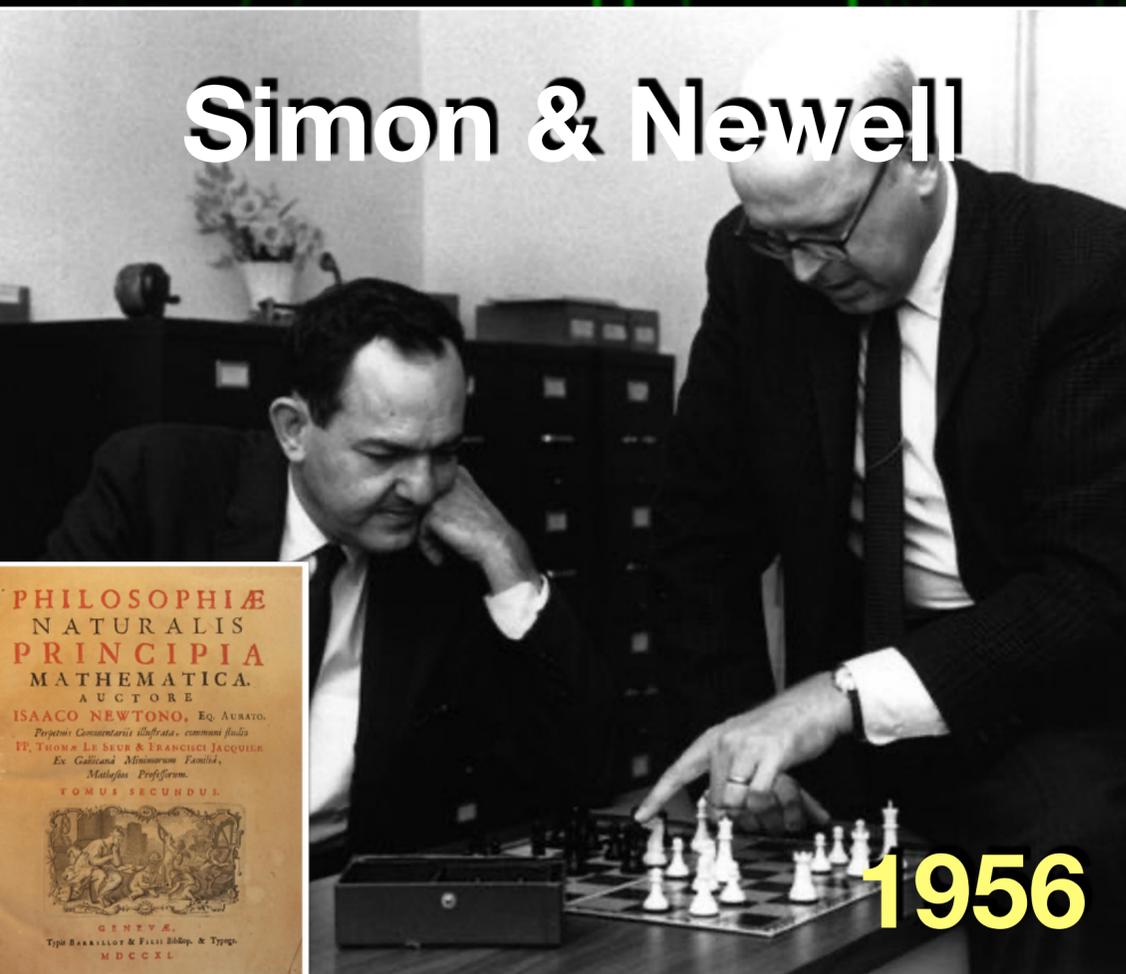
*“A machine that  
can simulate  
any human  
intelligence.”*  
Alan Turing





# AI Milestones

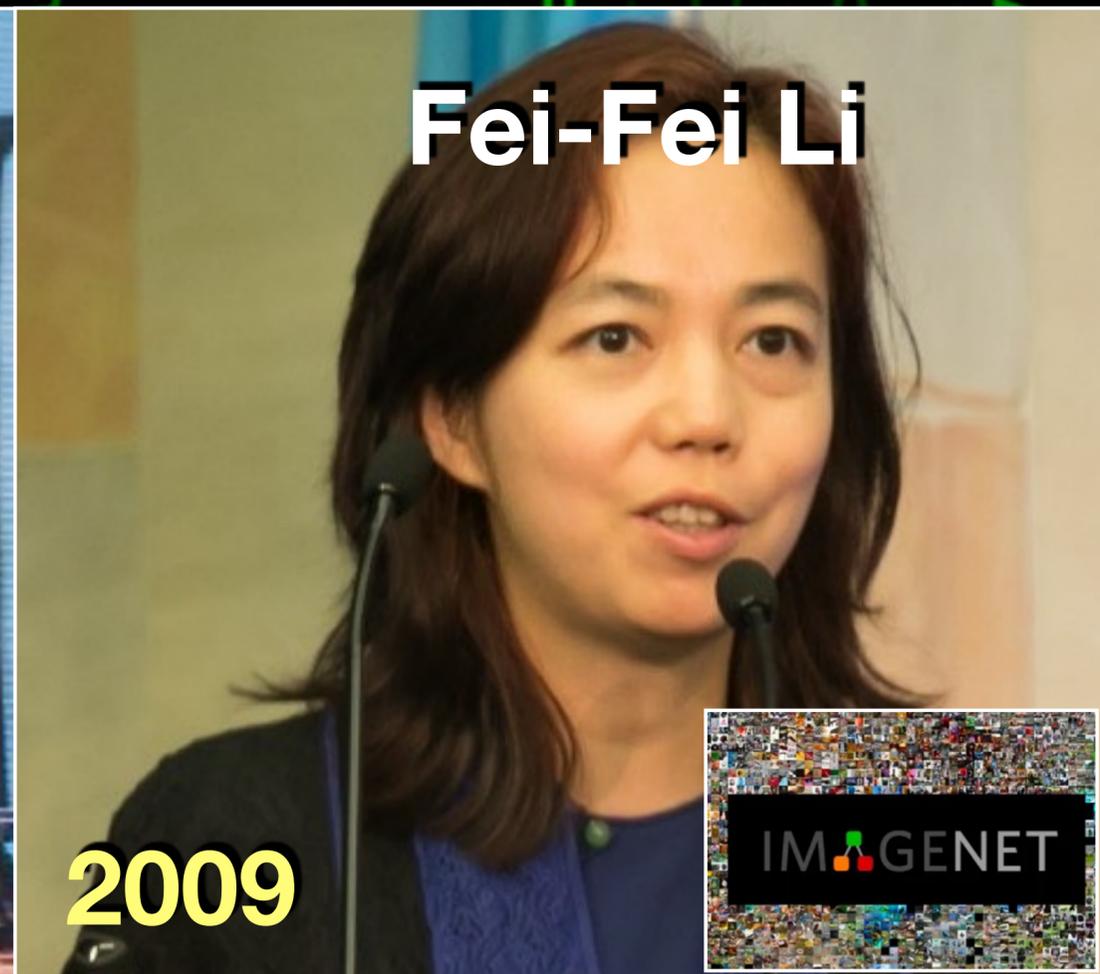
Simon & Newell



Gary Kasparov



Fei-Fei Li



# AI Milestones

Geoffrey Hinton



2012

Lee Sedol



2016

Sam Altman



2022

# KT Problem

*“It takes **50** years to get a wrong idea out of medicine, and **100** years a right one into medicine.”*

**Dr. John Jackson**

**Cypher**  
**(Joe Pantoliano)**

# KT Problem

*“New scientific truth does not triumph by convincing its opponents and making them see the light, but rather because its opponents eventually die, and a new generation grows up that is familiar with it.”*

**Max Planck**

**Tank**  
**(Marcus Chong)**

**Acceptance**

**Awareness**

**Able**

**Applicable**

**Act On**

**Agree**

**Adhere**

**Seven Barriers to KT**

**17 Years**

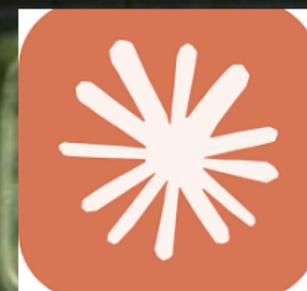


**14%**



**Knowledge  
Translation  
Problem**

**AI Solution?**





# AI Medical Milestones

# AI Medical Milestones

Ward

eCART 2016

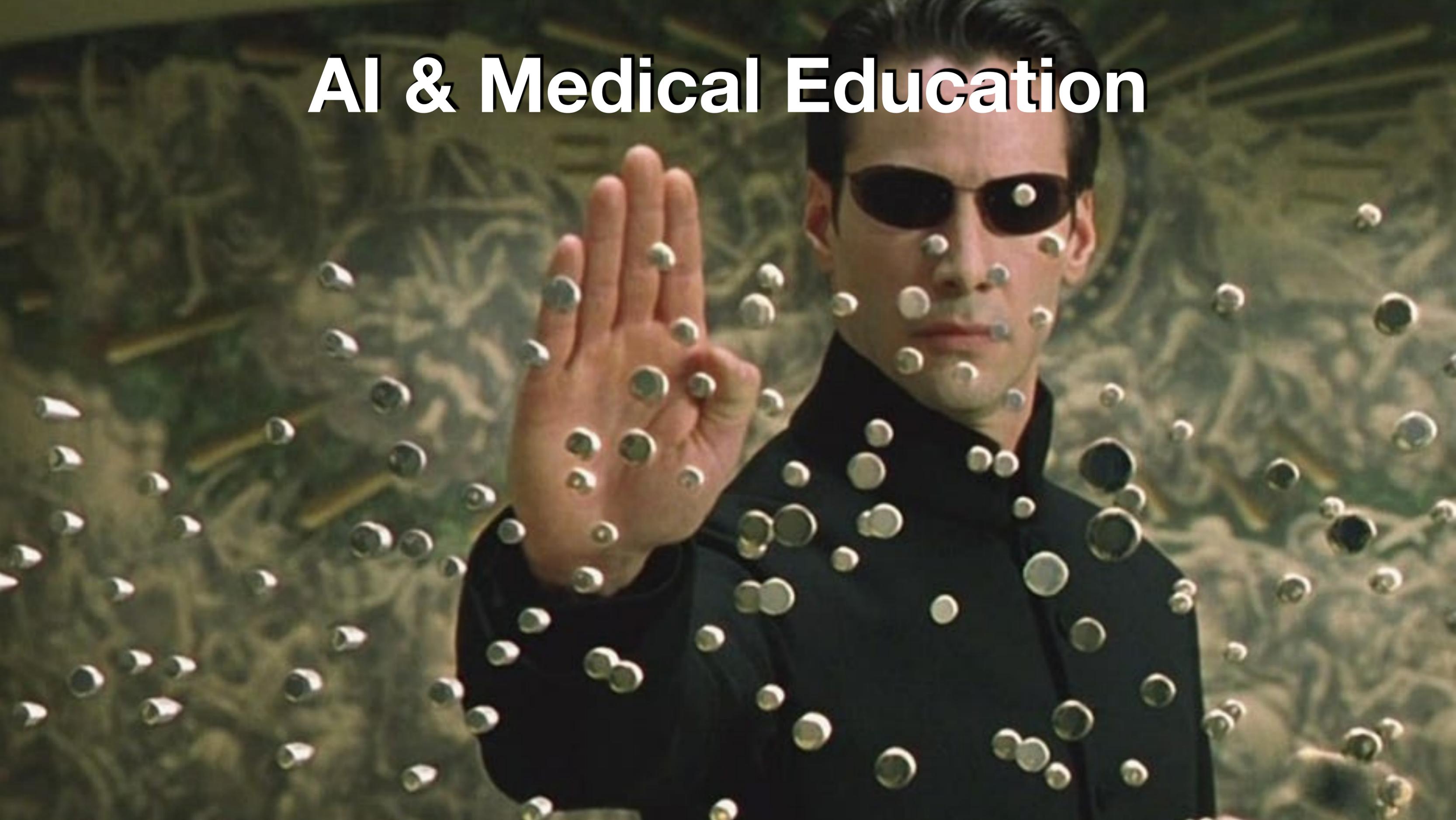
Retinopathy

IDx-DR 2018

Ward

CHARTWatch 2024

# AI & Medical Education





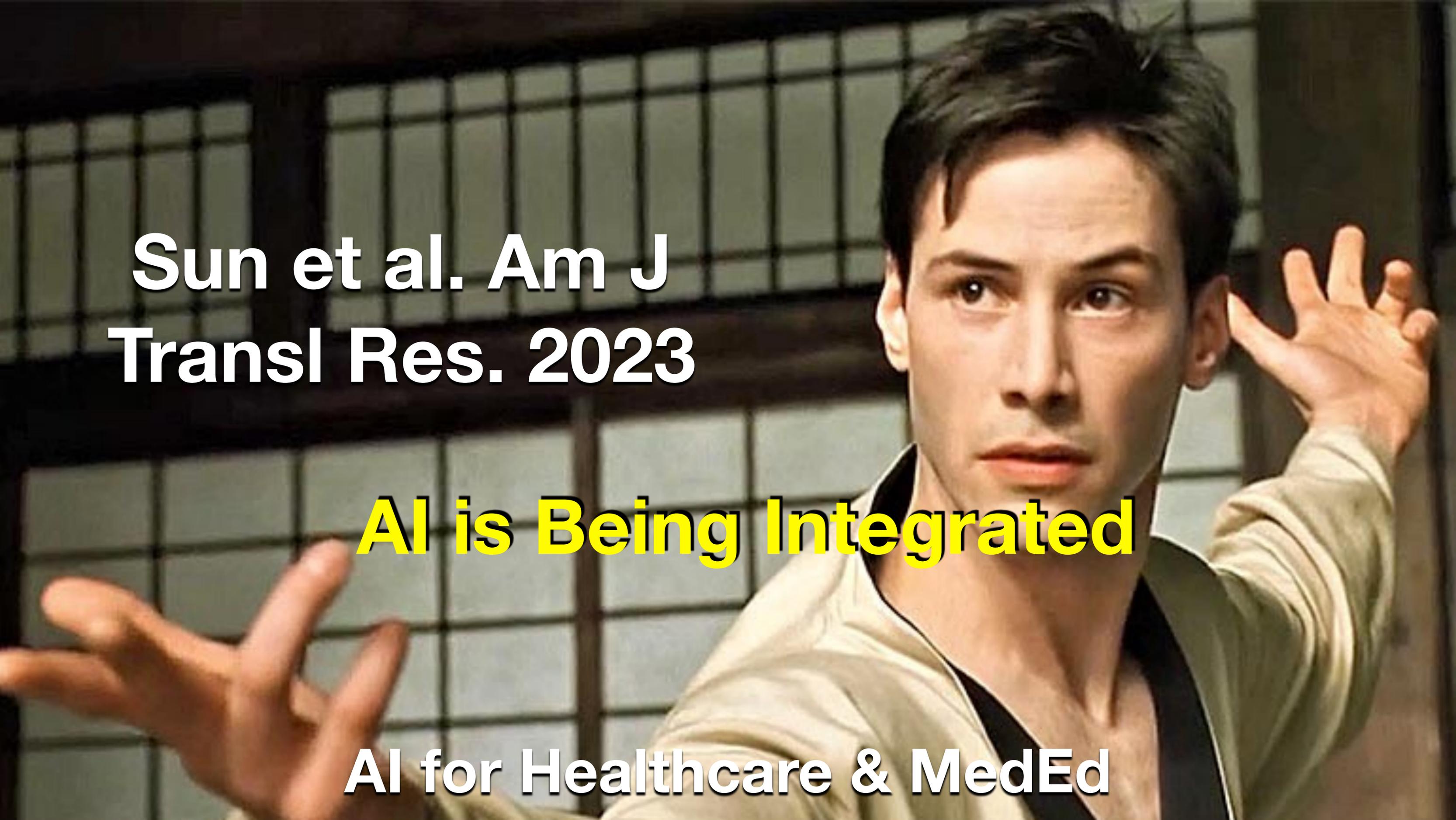
**Signal to Noise**



**Sapci et al. JMIR  
Med Educ. 2020**

**Need Specialized Training**

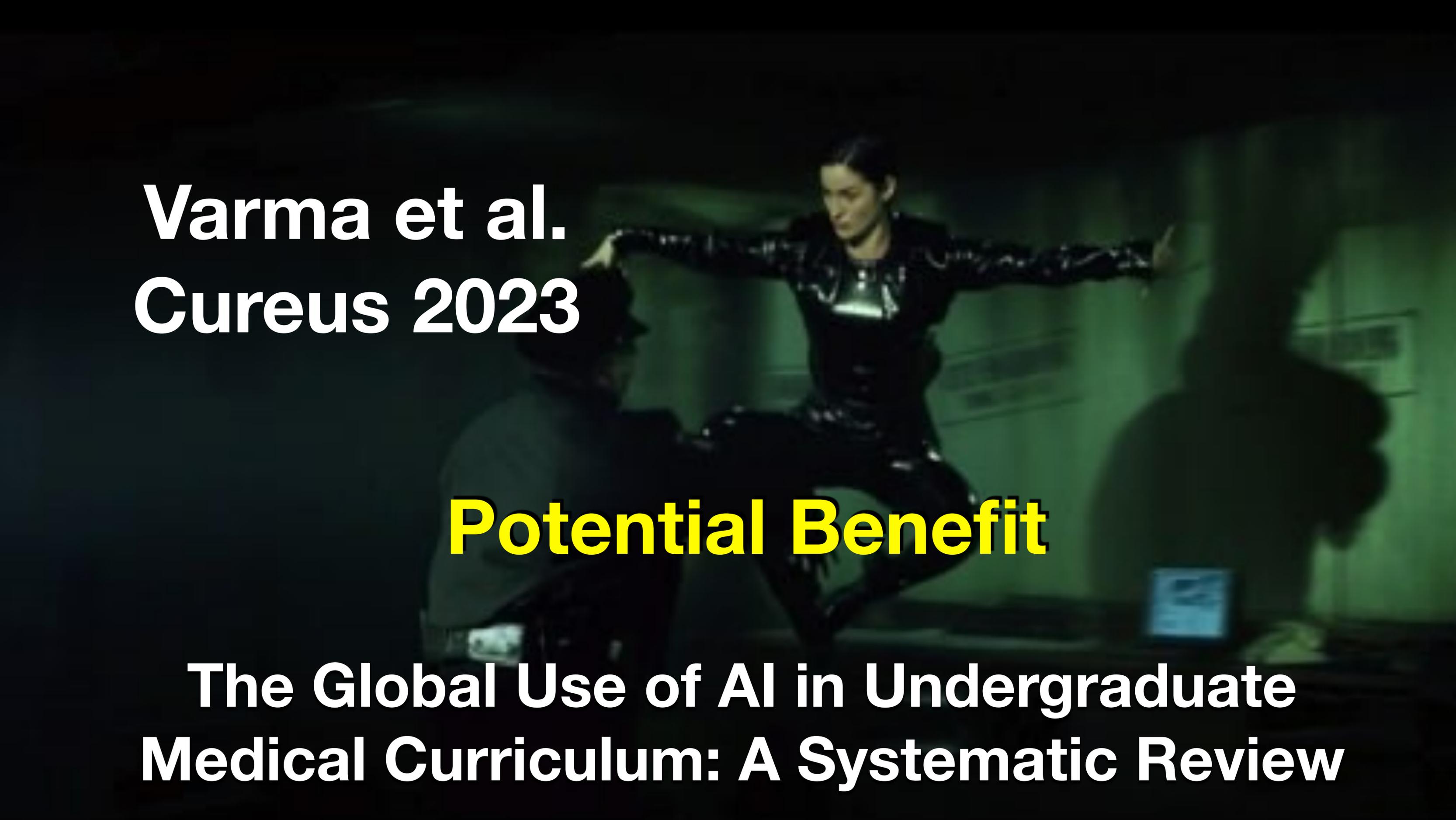
**AI Education & Tools for Medical  
& Health Informatics Students**



**Sun et al. Am J  
Transl Res. 2023**

**AI is Being Integrated**

**AI for Healthcare & MedEd**



**Varma et al.  
Cureus 2023**

## **Potential Benefit**

**The Global Use of AI in Undergraduate  
Medical Curriculum: A Systematic Review**

A woman with dark hair, wearing a blue long-sleeved sweater, is focused on performing a medical procedure on a man lying in a simulation chair. The man is wearing a dark blue shirt and has his eyes closed. The woman is using a white cloth or gauze on the man's face. The background is dark and filled with medical equipment, including a monitor displaying a blue-tinted image. The overall scene is dimly lit, emphasizing the concentration of the participants.

**AI for MedEd**

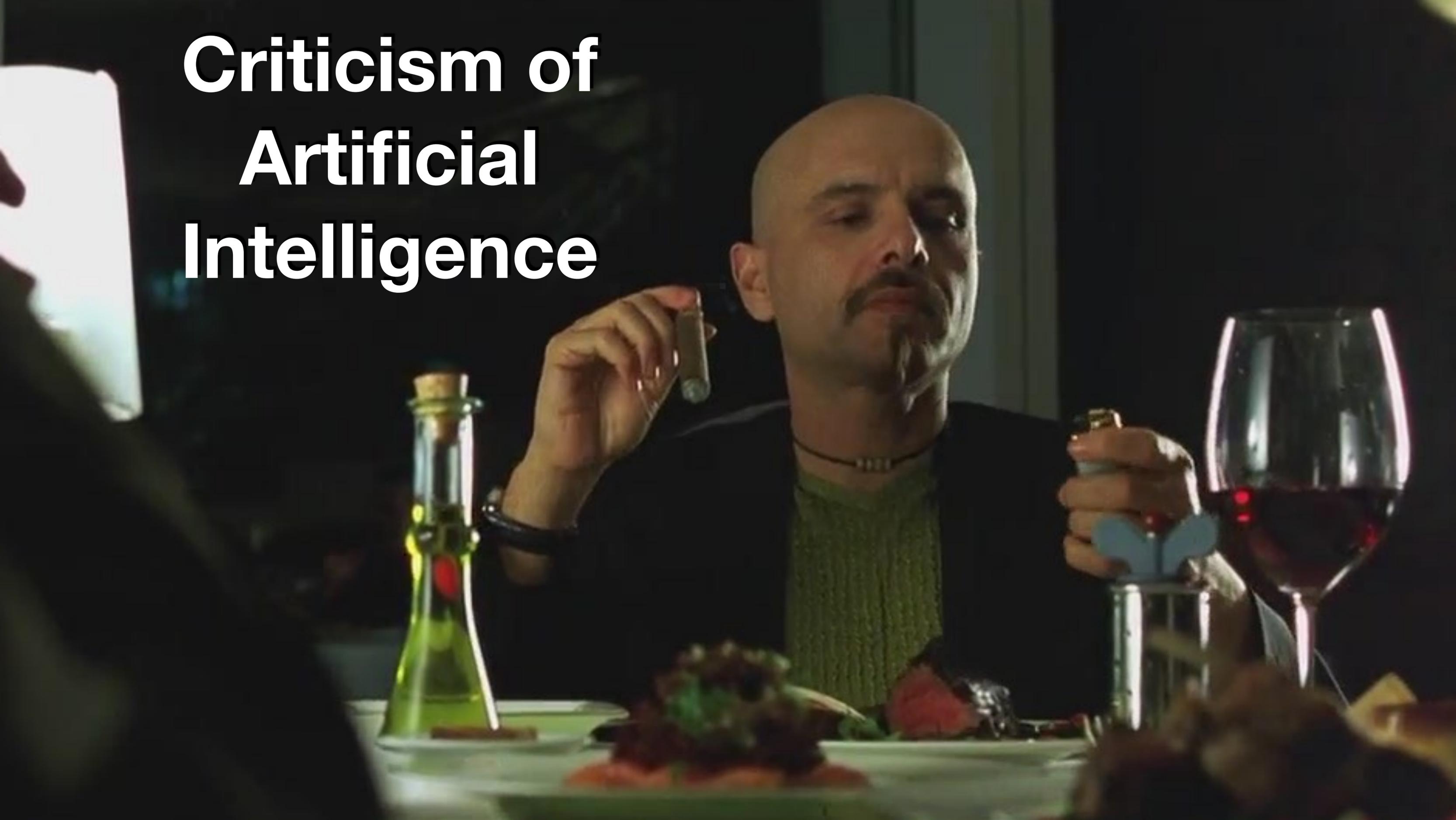
**High-Fidelity  
Simulation**

# AI for MedEd

## On-Shift:

1. Find Evidence
2. CDRs & Protocols
3. DDx
4. Spot Dx
5. Rad Interpretation

# Criticism of Artificial Intelligence

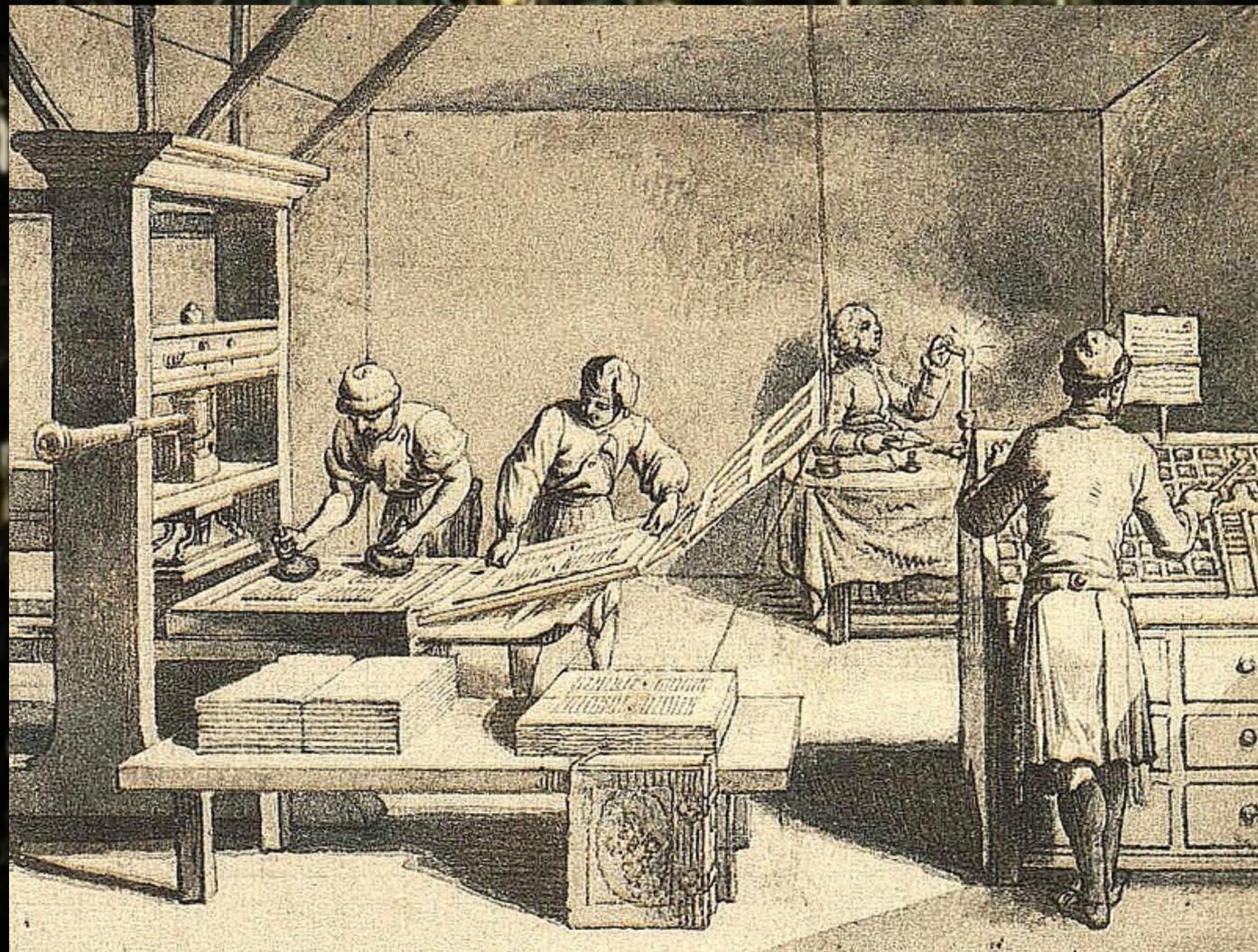


The image is a composite. In the foreground, a man with a white beard and hair, wearing a grey suit and tie, looks slightly to the right. He is holding a pen in his right hand. To his left is a rectangular piece of papyrus with a rough, torn edge. The background is a grid of many small, identical images of a man in a black suit and sunglasses. The word "Papyrus" is written in black text on the papyrus piece.

**Papyrus**

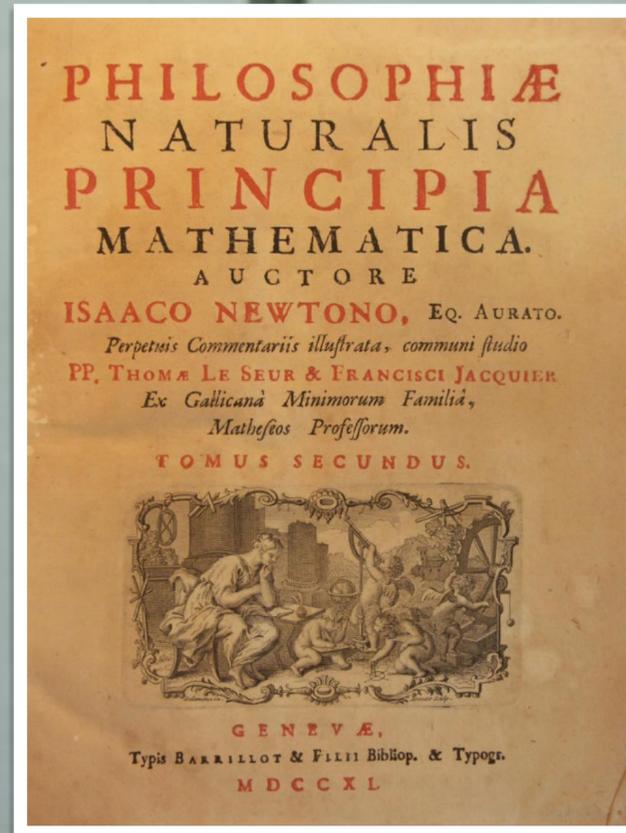
**Socrates**  
**4th Century BC**

# Martin Luther & Pope Leo X

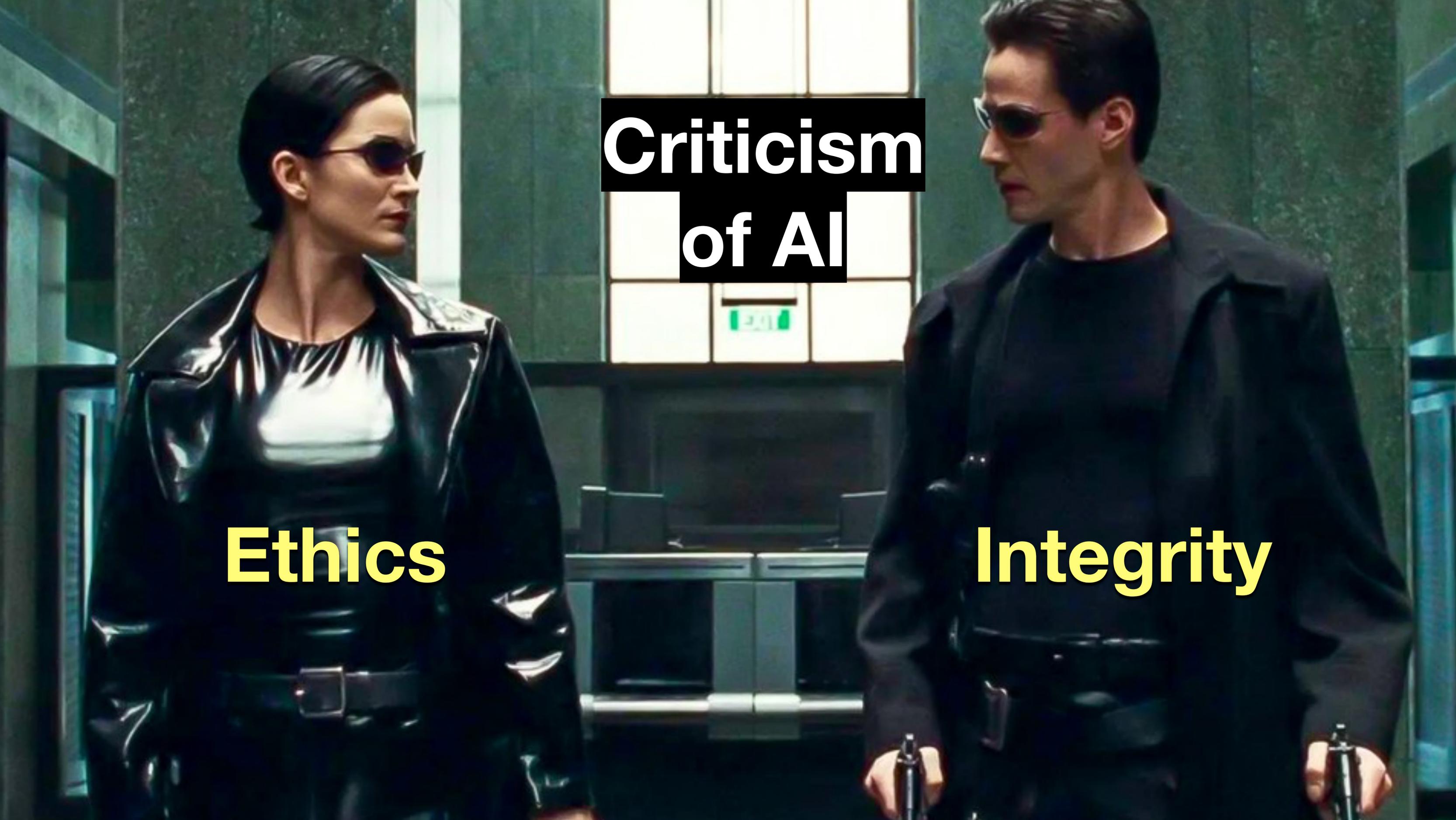


14th & 15th Century

# 17th Century



Newton, Hooke & Hailey



**Criticism  
of AI**

**Ethics**

**Integrity**

# Environmental Destruction



**1.2 Trillion Liters of H<sub>2</sub>O by 2030**

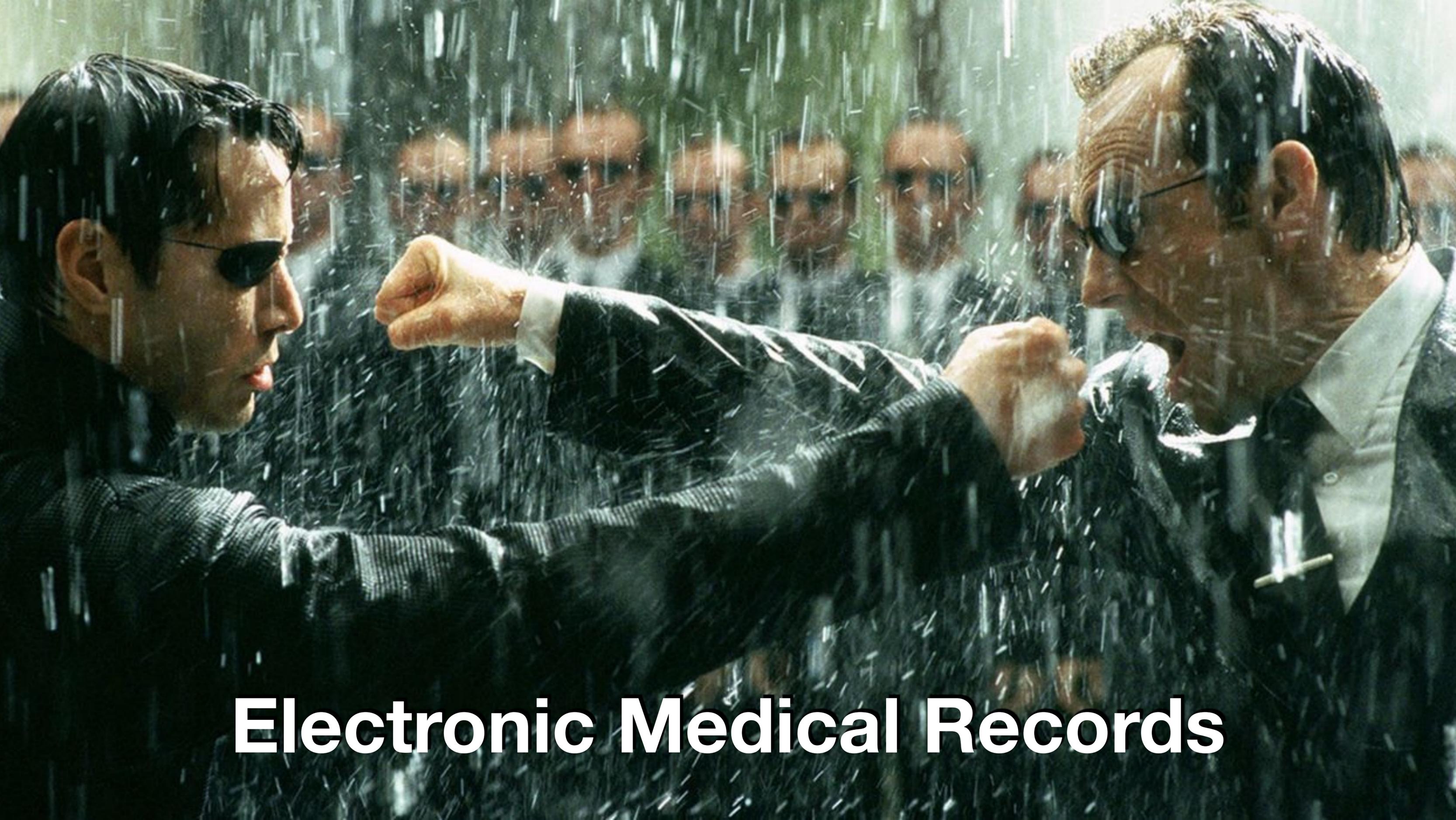
# Hallucinations

**Biases**

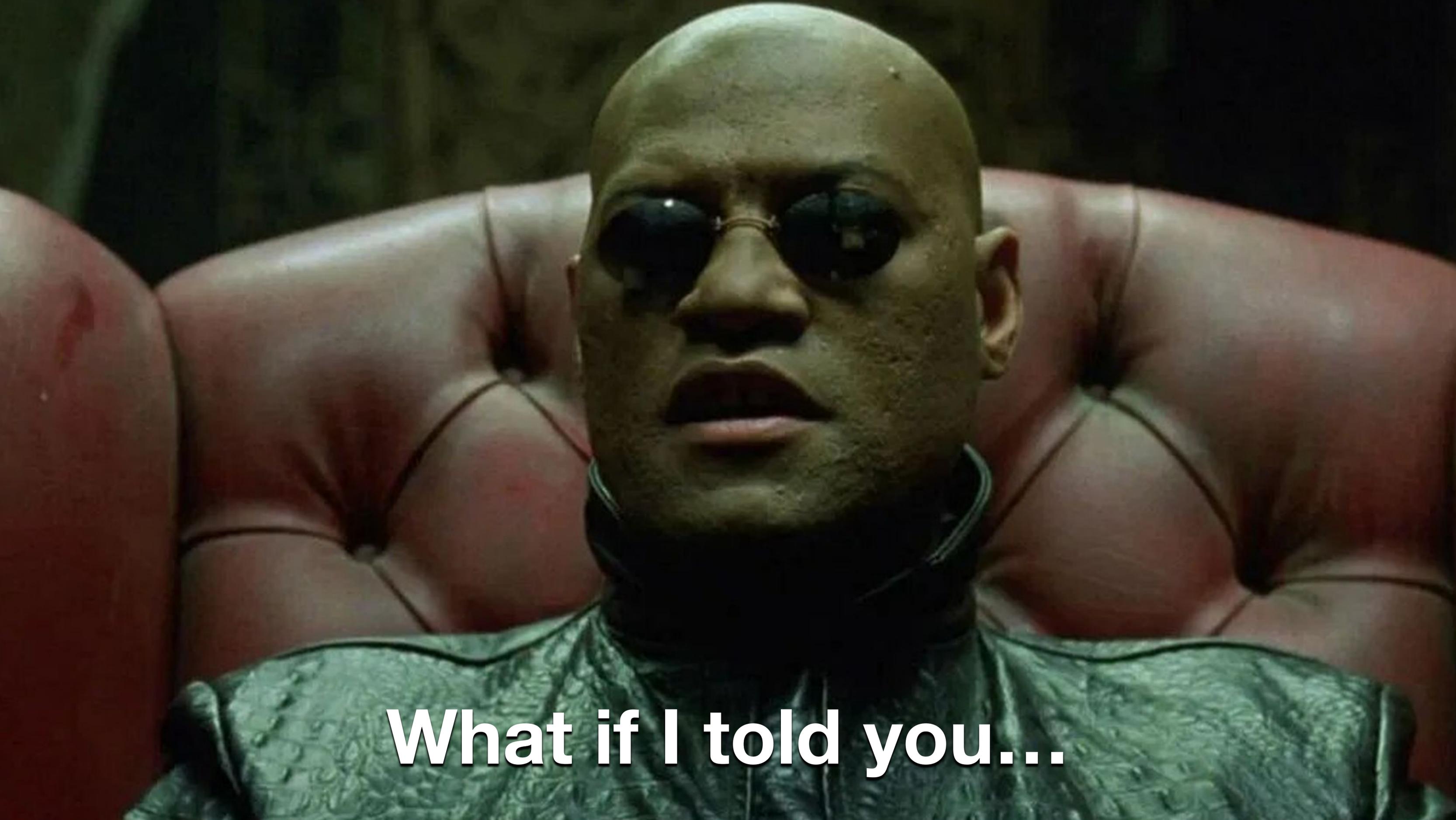


The background of the image is a vibrant green with a fine, woven texture, similar to a piece of fabric or a close-up of a plant's surface. The lighting is slightly uneven, creating subtle gradients of green and some darker, shadowed areas that give it a three-dimensional appearance.

**Demonstration**



# Electronic Medical Records



**What if I told you...**



**Plug Into AI**



**Remember to be skeptical  
of anything you hear, even  
if you heard it from me.**

**[www.TheSGEM.com](http://www.TheSGEM.com)**

# AI on the Ward 2016



eCART Univ of Chicago  
Early Warning System

Churpek et al. Crit Care Med 2016



# **AI for DM Retinopathy 2018**

**IDx-DR**

**First FDA-Approved AI Dx Device**

**Abramoff et al Digital Med 2018**

# AI Monitoring In-Patients 2024

A high-angle, wide shot of a large crowd of people in business attire walking in a modern, brightly lit space. In the background, there is a large, cascading waterfall. The people are dressed in dark suits and dresses, and they are moving in various directions, creating a sense of a busy, professional environment.

**Chart Watch**  
**Verma et al CMAJ 2024**