

Deep Tech Skills Beyond ChatGPT to Thrive in the New AI Era

Dr. Michal Polanowski
Head of Generative AI

AI & Data Analytics Strategic Technology Centre,
Group Technology Office , ST Engineering



Agenda

1. Intro
2. Background
3. What is next?
4. How to keep up?

Disclaimer

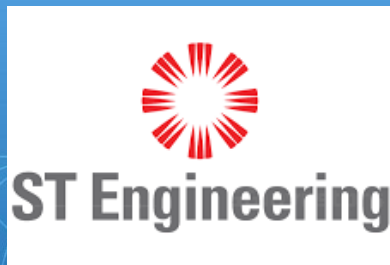
The views, opinions, and conclusions expressed in this presentation are solely those of the presenter and do not represent or reflect the official policy or position of the company or its affiliates.



About Me



Lazada



[https://www.linkedin.com/in/](https://www.linkedin.com/in/polanowskimichal/)

[polanowskimichal/](https://www.linkedin.com/in/polanowskimichal/)

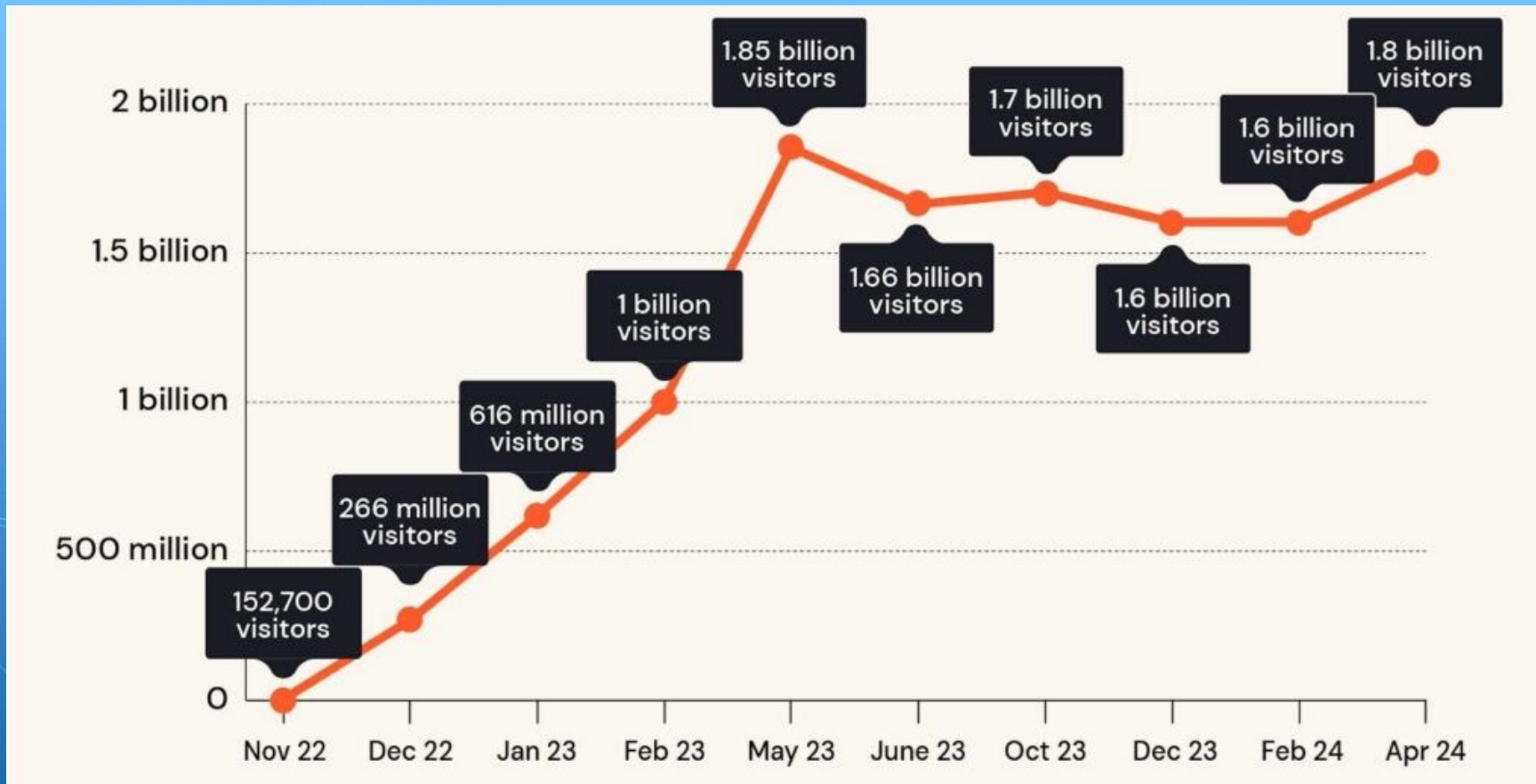
Background



30th November 2022 Changed A LOT



ChatGPT Became A Success



Reactions Were Mixed

ChatGPT: Amazing AI engineering can be beneficial - but needs to be used in right ways

UNSW Sydney experts in computer science, business, and arts and media explain why ChatGPT can be valuable technology, if treated with caution.

Published on the 03 Feb 2023 by Neil Martin

StanfordReport How will ChatGPT change the way we think and work? Stanford scholar examines

February 13th, 2023 | 8 min read **Science & Engineering**

How will ChatGPT change the way we think and work? Stanford scholar examines

Pause Giant AI Experiments: An Open Letter

We call on all AI labs to immediately pause for at least 6 months the training of AI systems more powerful than GPT-4.

Signatures

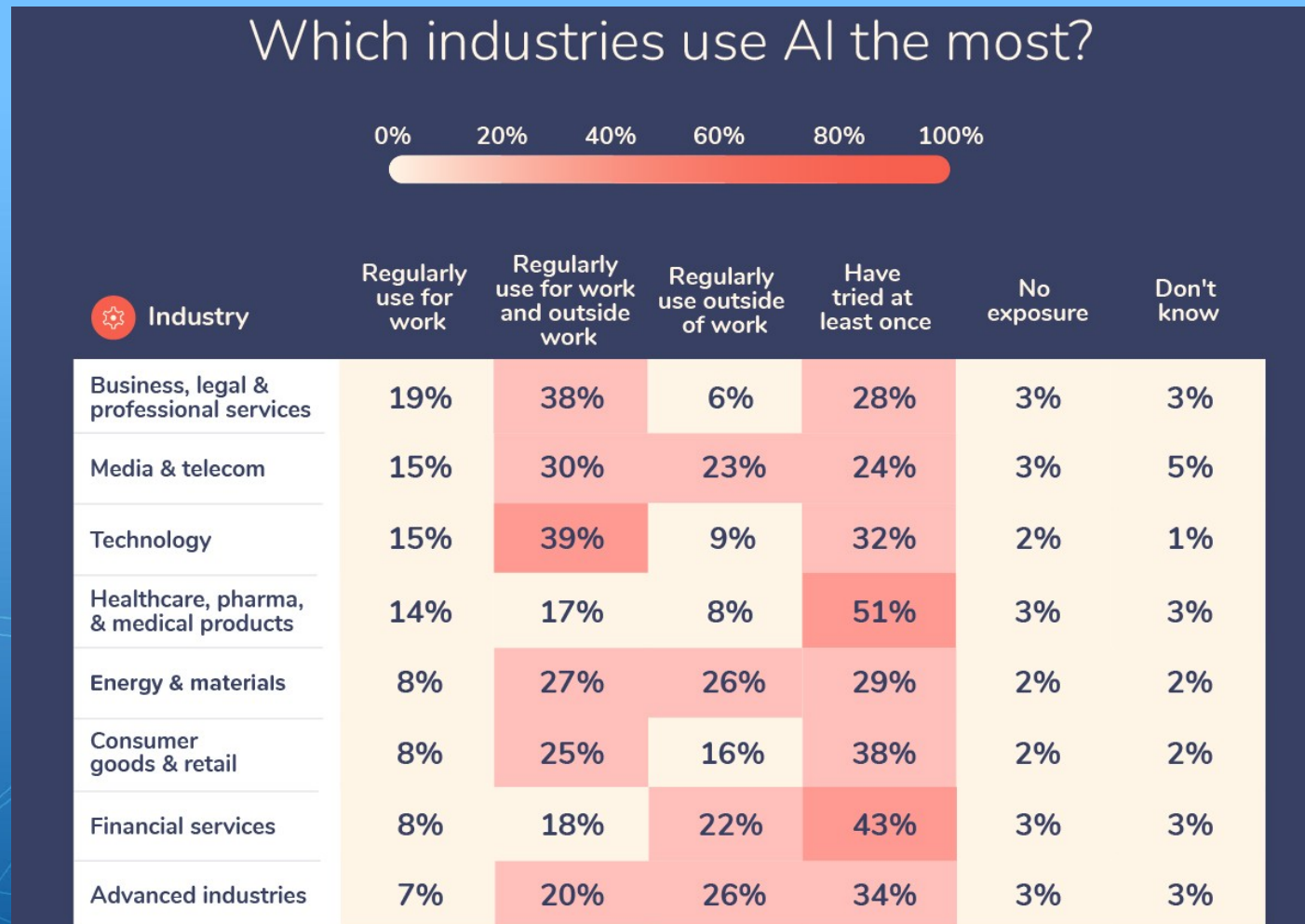
33705

Add your signature

Published

22 March, 2023

Many Things Have Changed



What is next?



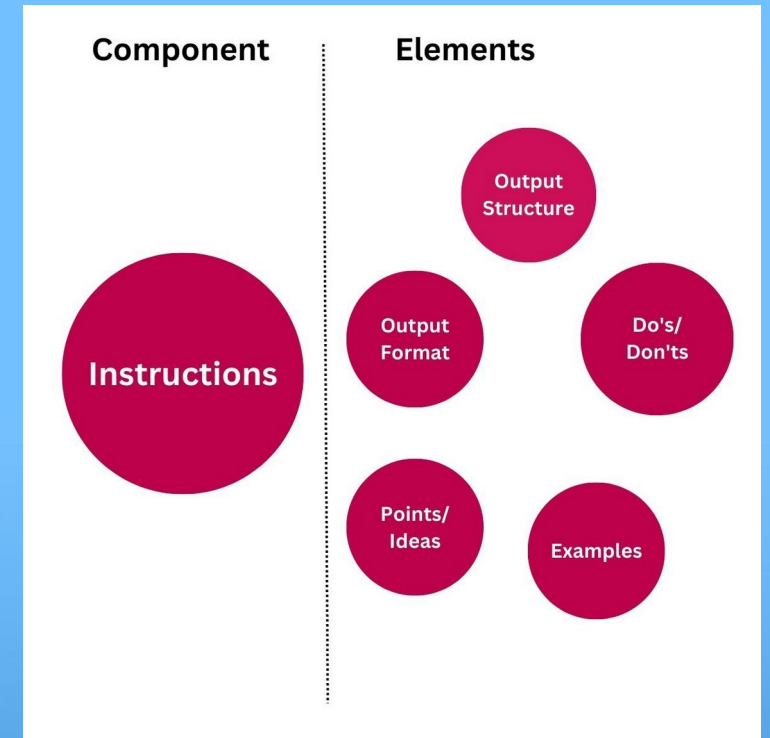


Prediction is very
difficult, especially
about the future.

Niels Bohr

First, lets we have a quick poll

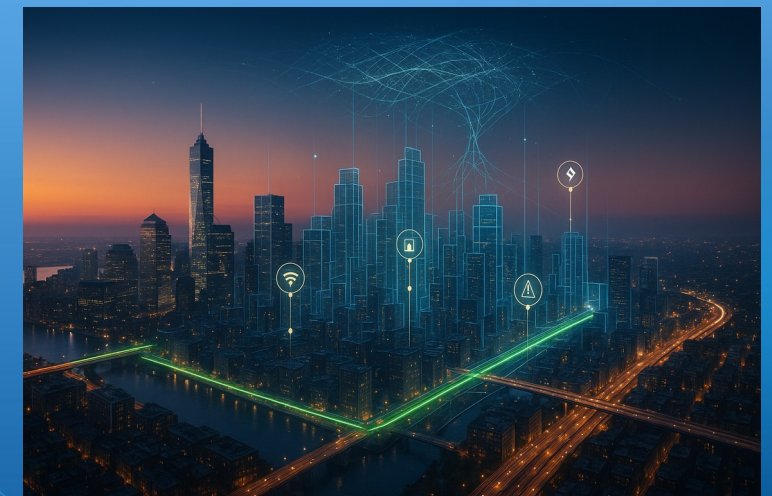
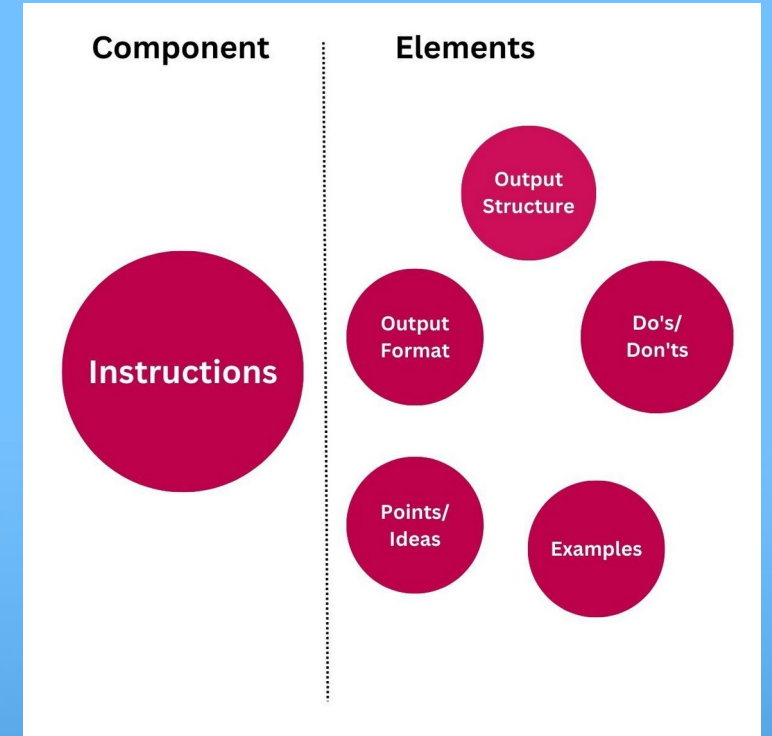
Put your hand up if, in the last year, you wrote an LLM prompt.



First, lets we have a quick poll

Put your hand up if, in the last year, you wrote an LLM prompt.

Keep them up if you've built a digital twin or deployed a robot that can plan and act on its own



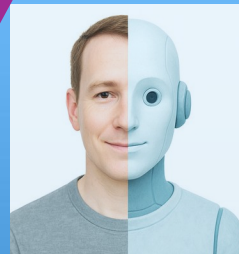
Future Is Connected

Robotics

Distributed intelligence systems enabling heterogeneous robots to coordinate, recognize collective intent, and adapt to complex environments

Robotics + Agentic

Robotics Teaming, Control & Planning
Interactive Learning



Embodied AI

Simulation + Robotics

Robotics Training
Sim-to-Real

Simulation

Generative digital twins of places, people, tasks, and events to train Agents and master new skills.

Simulation + Agentic

Social / Behavior Simulation
Complex Scenario Generation

Agentic

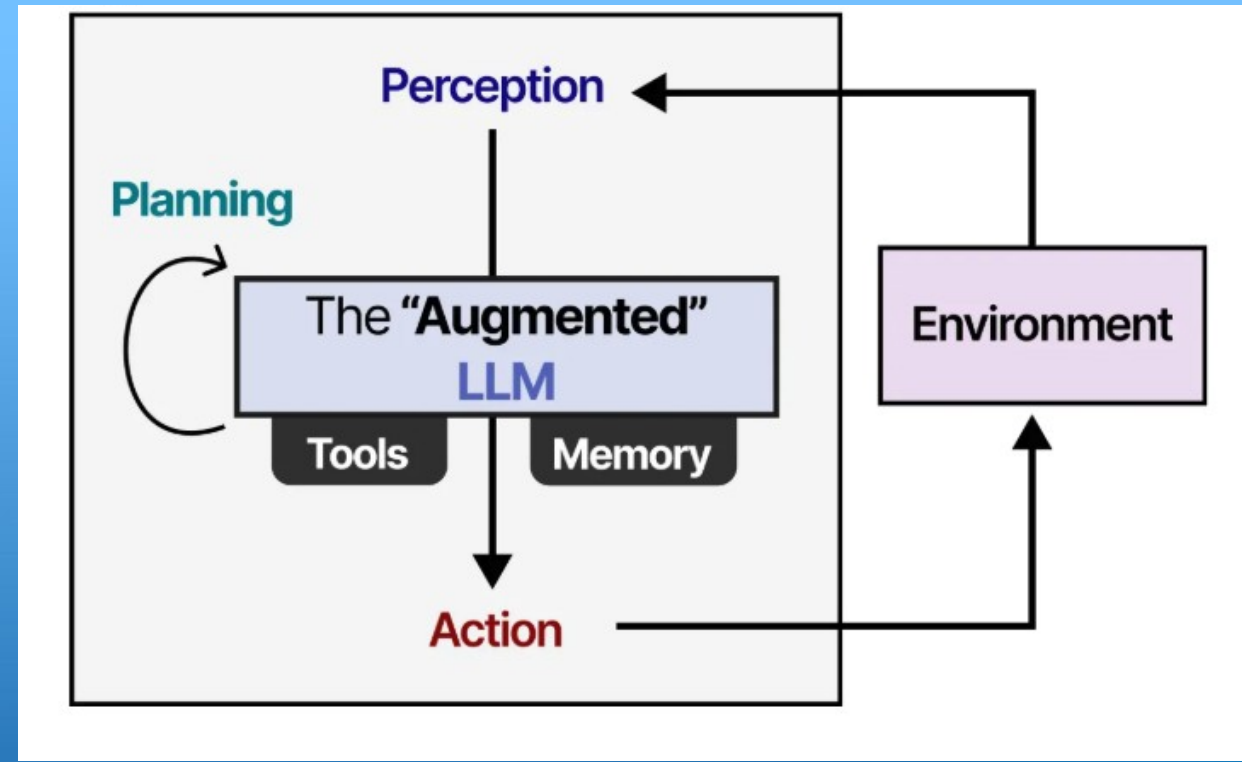
Workflows combining vision, anomaly detection, planning, and multi-agent collaboration for dynamic, adaptive task execution.

AI AGENTS

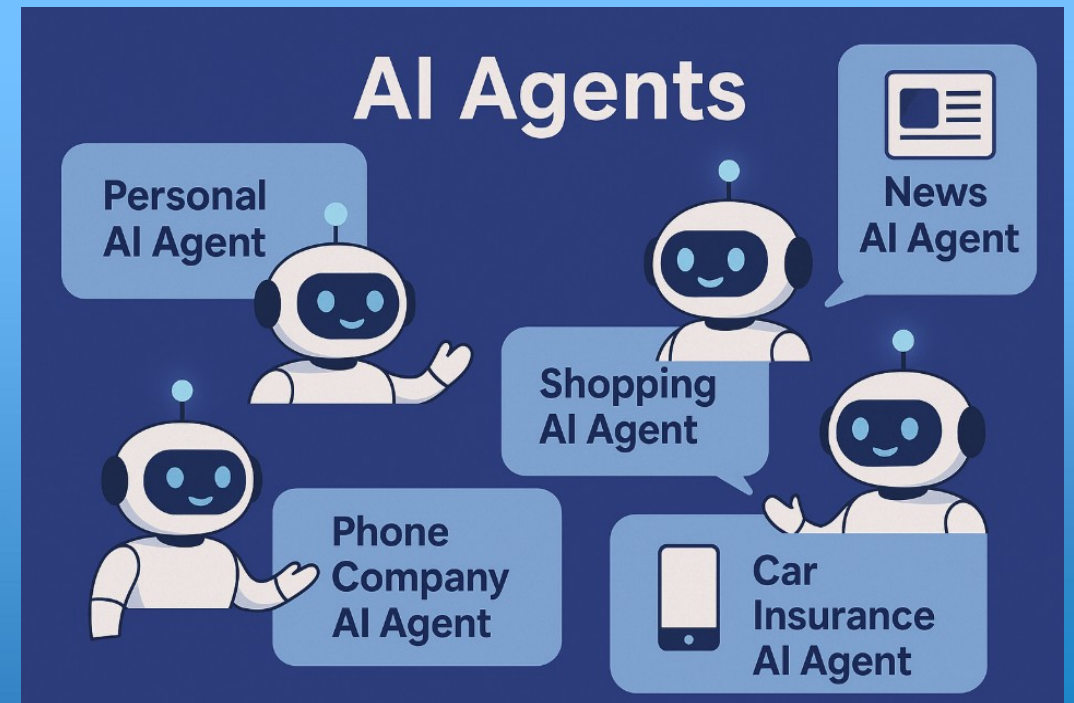
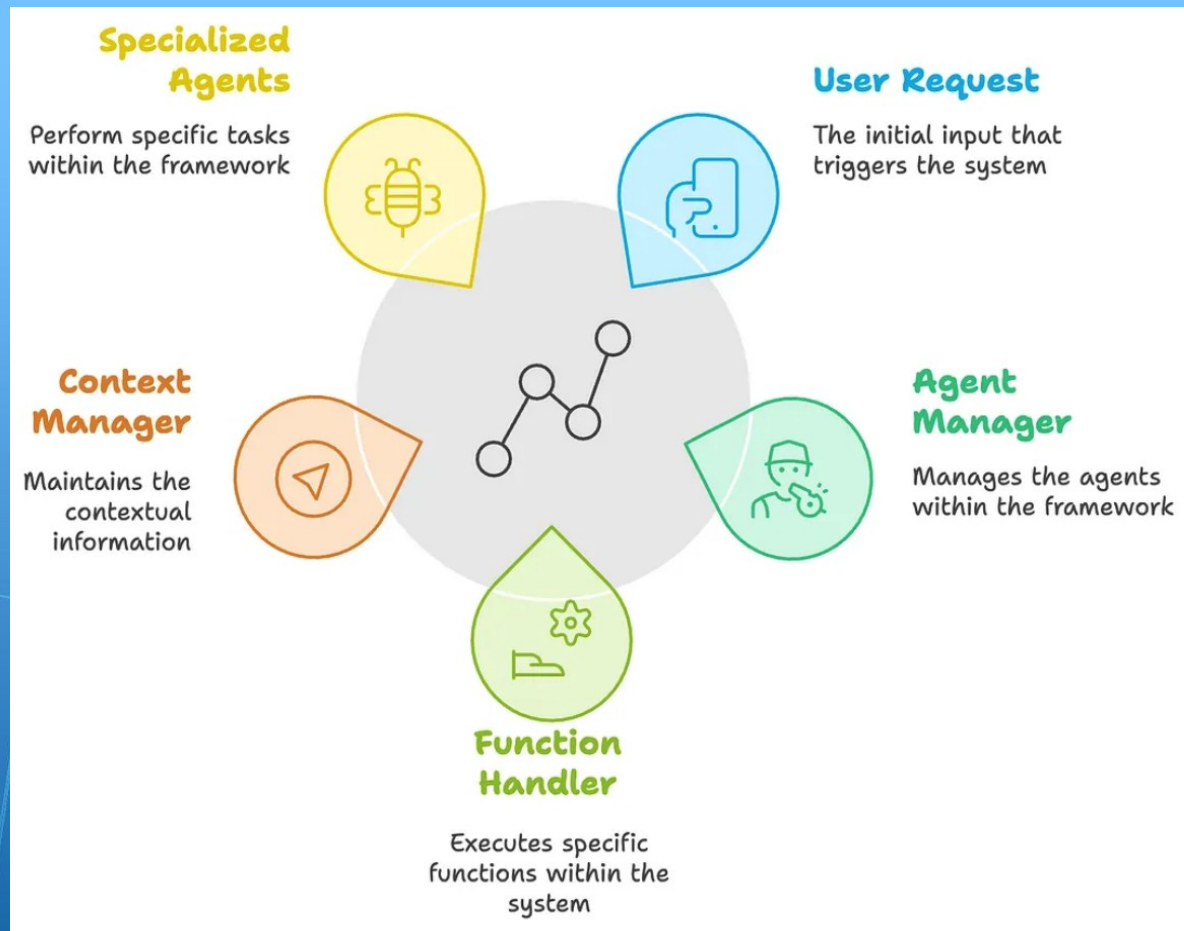


AI Agents Will Be A Crucial Part of the Future

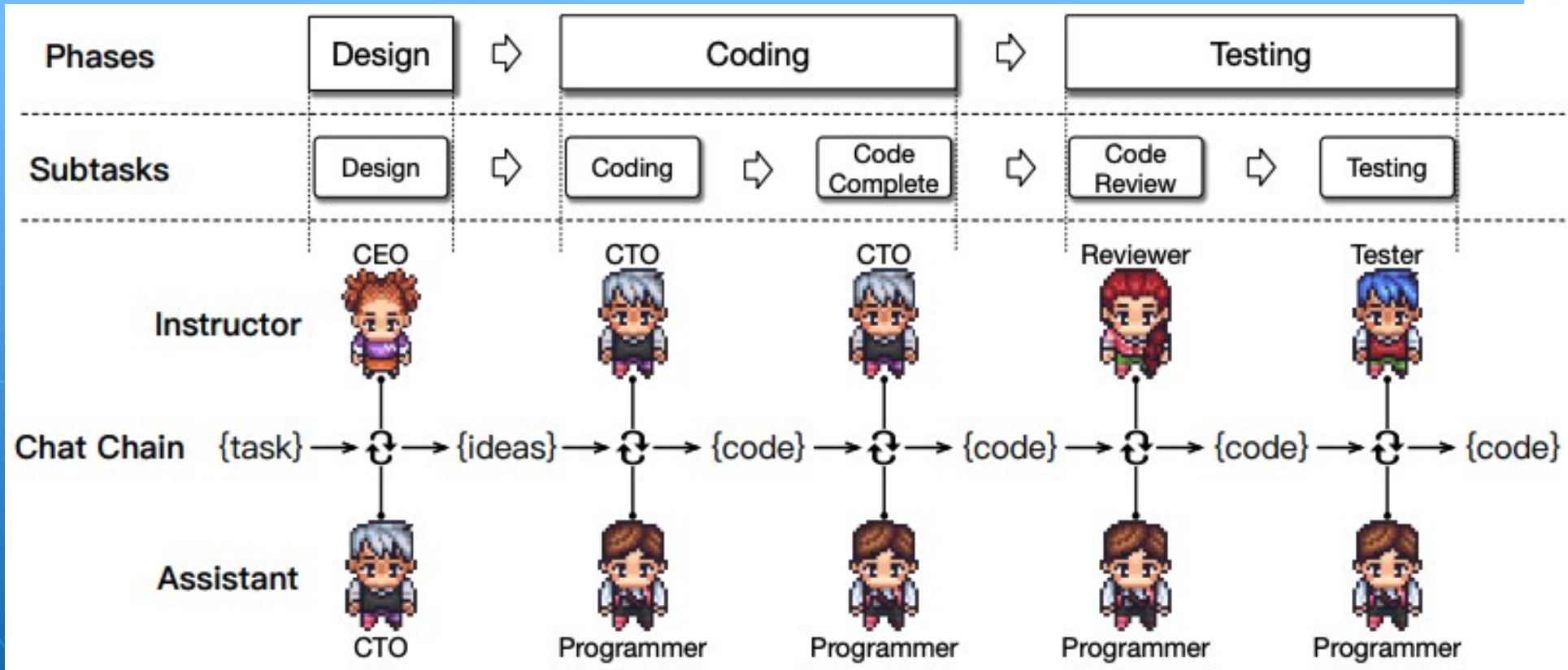
An AI agent is an AI program capable of acting autonomously to understand, plan and execute tasks. AI agents are powered by LLMs and can interface with tools, other models and other aspects of a system or network as needed to fulfill user goals.



AI Agents Work Together To Achieve Tasks



ChatDev: Agents Develop Software

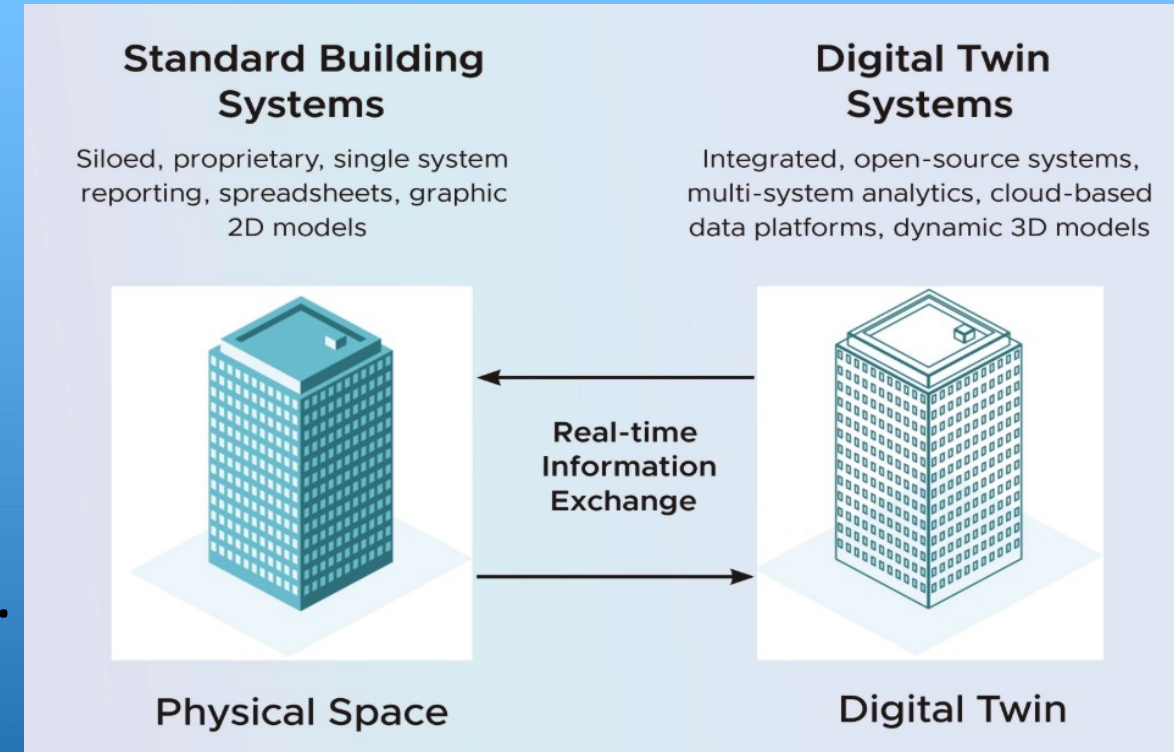


DIGITAL TWIN



IKEA's Digital Twin: Millions Saved in 9 Months

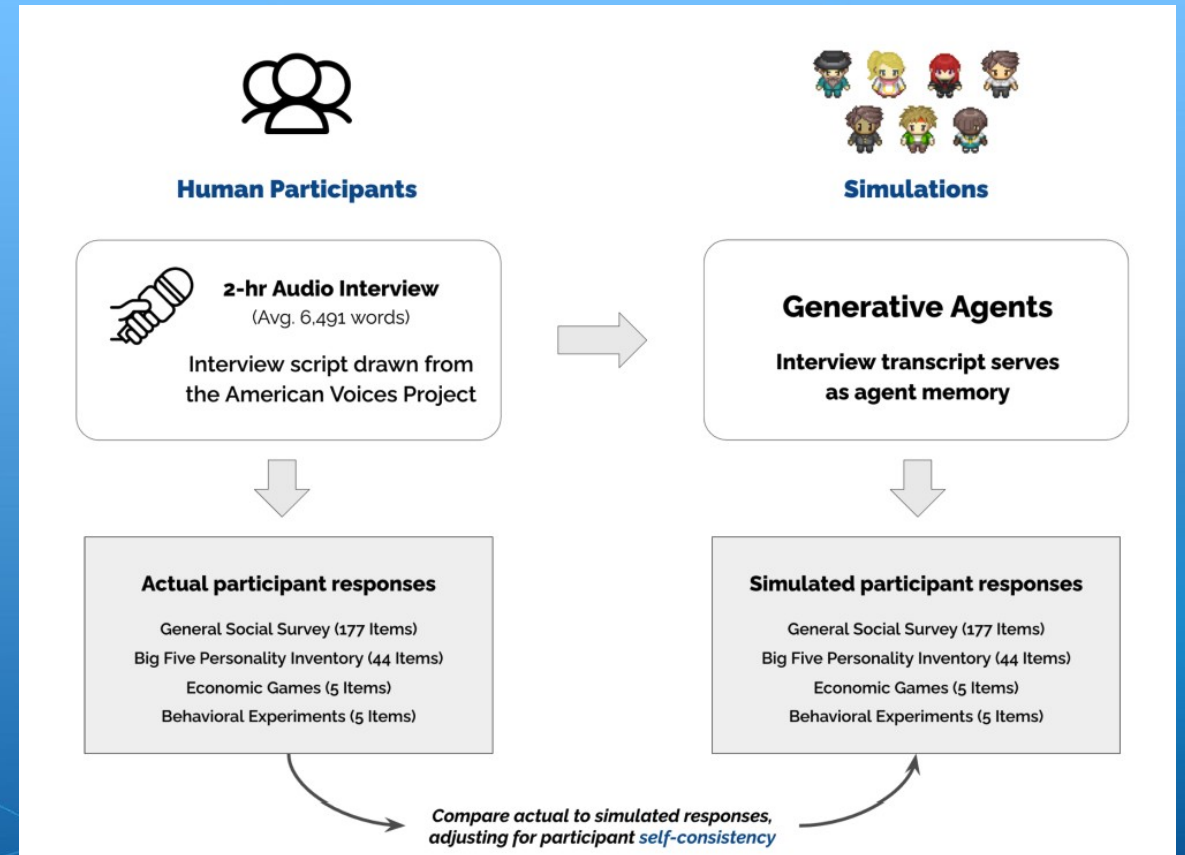
IKEA digitized 37 stores across East Asia, integrating 7,000 data points from IoT, energy, and HVAC systems into a digital twin. By optimizing 6,000 HVAC, they cut HVAC energy use by 30%—saving millions annually.



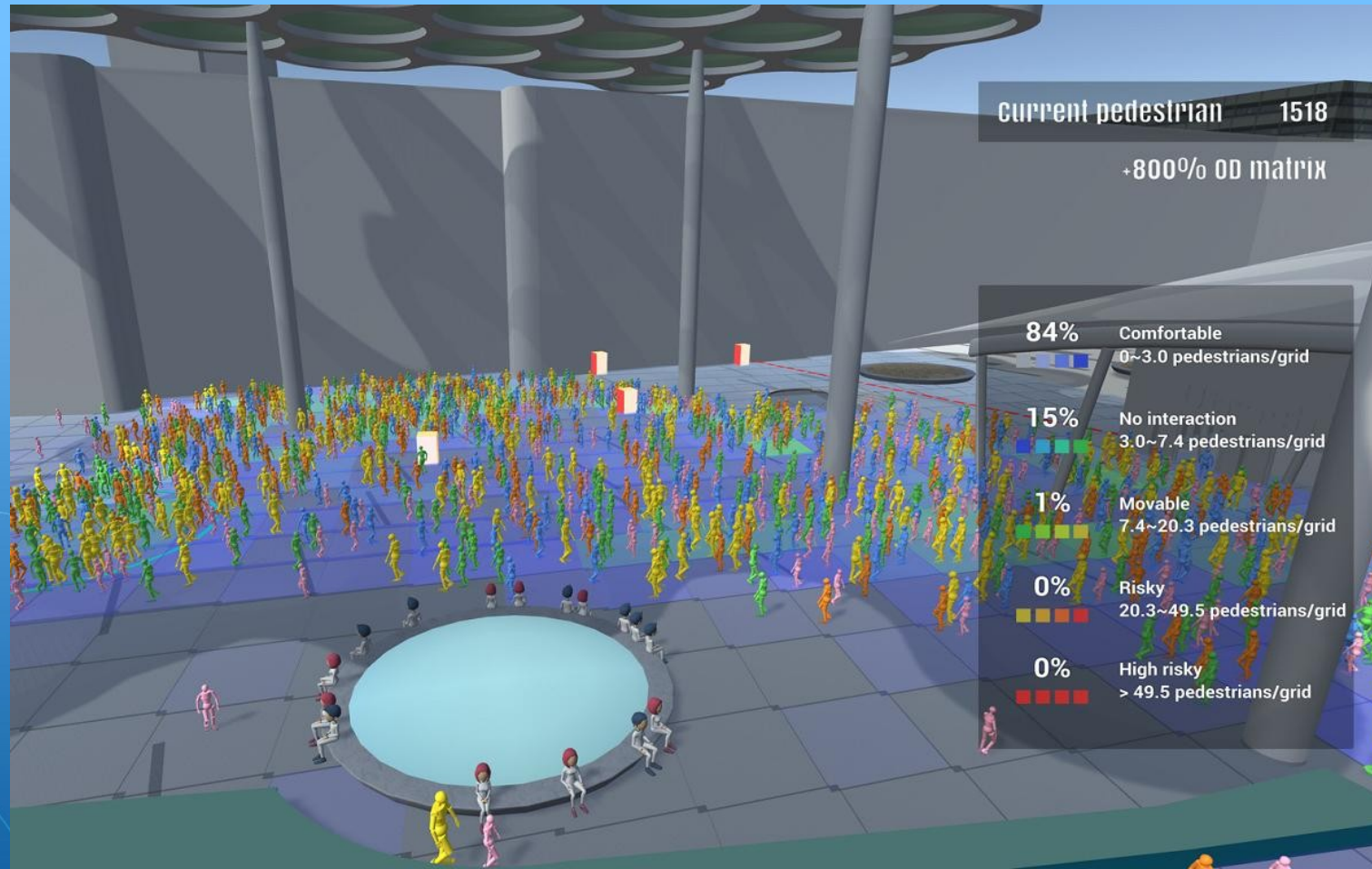
Scaling Human Insight with AI Digital Twins

AI digital twins let us simulate conversations and gather diverse opinions instantly—at scale and at a fraction of the cost.

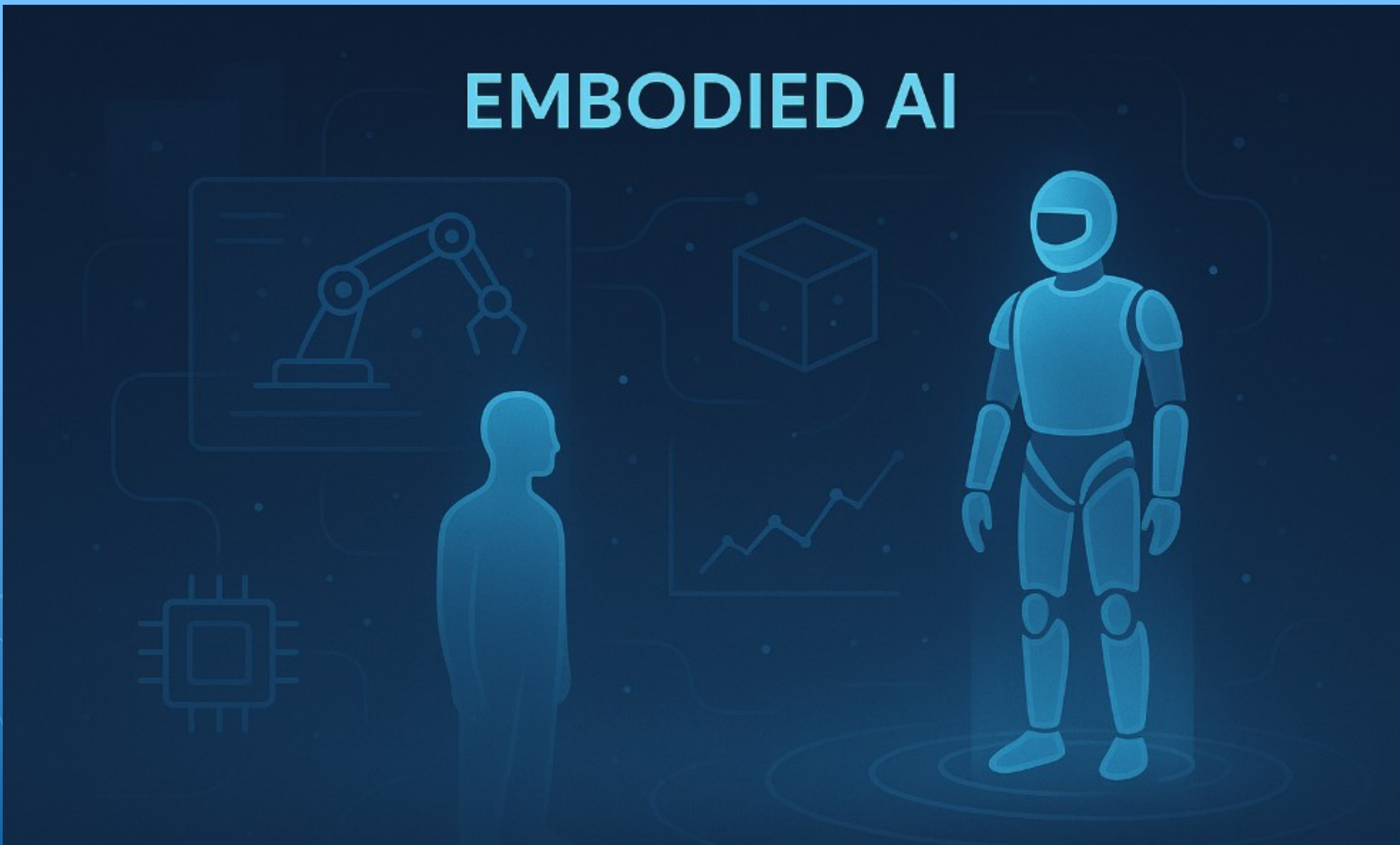
This enables faster discovery, early validation of ideas, and better focus on what truly matters.



Crowd Simulation at Utrecht Stationsplein



EMBODIED AI



Let's Combine AI, Simulations, and Robotics

Embodied AI fuses robotics, AI, sensors, and computer vision to let these systems perceive, reason, and act in real-world environments.

Simulations are used to train AI in its Digital Twin body to learn new actions and behaviours.



Audi Training Its Robots Virtually

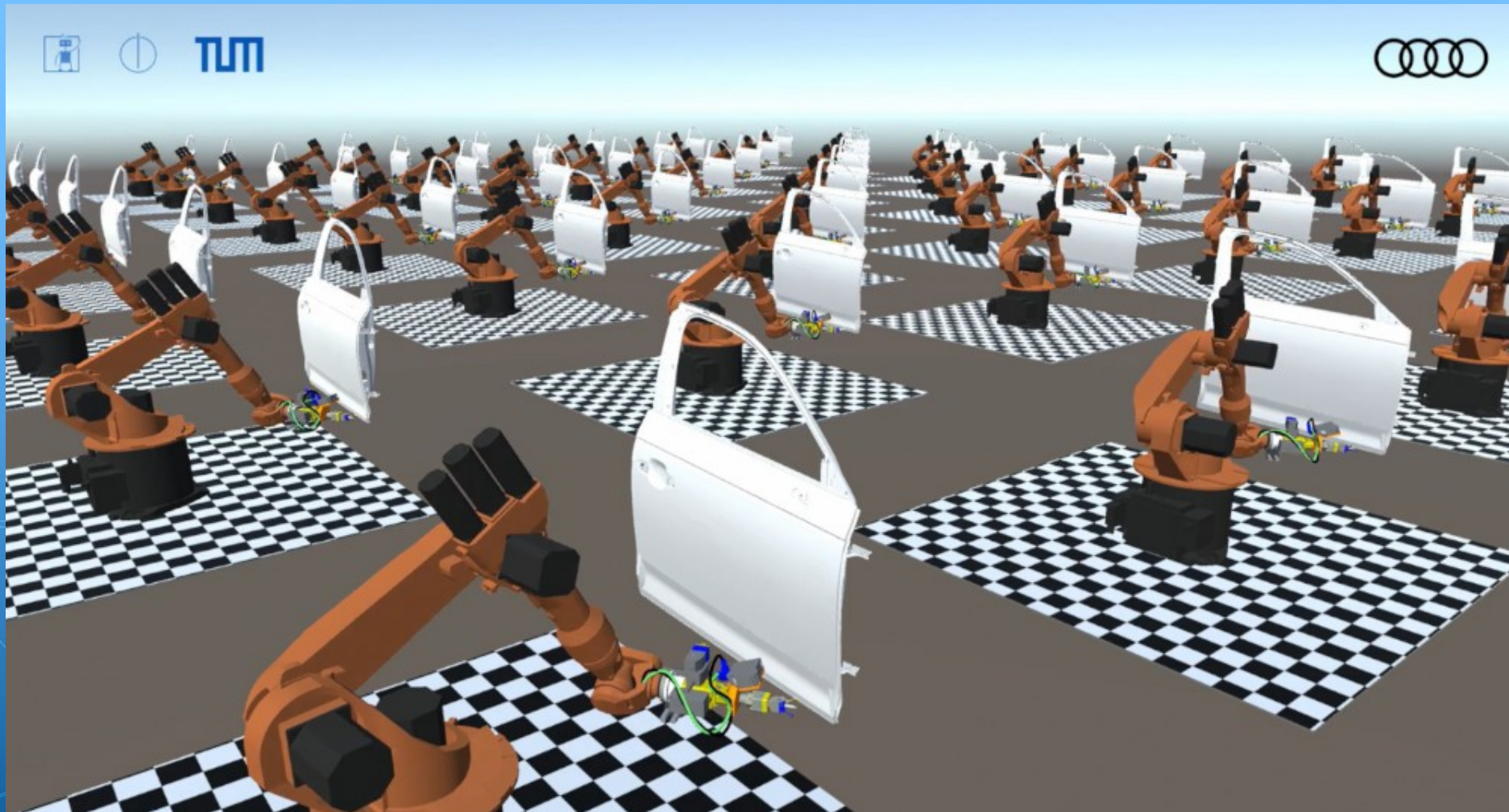
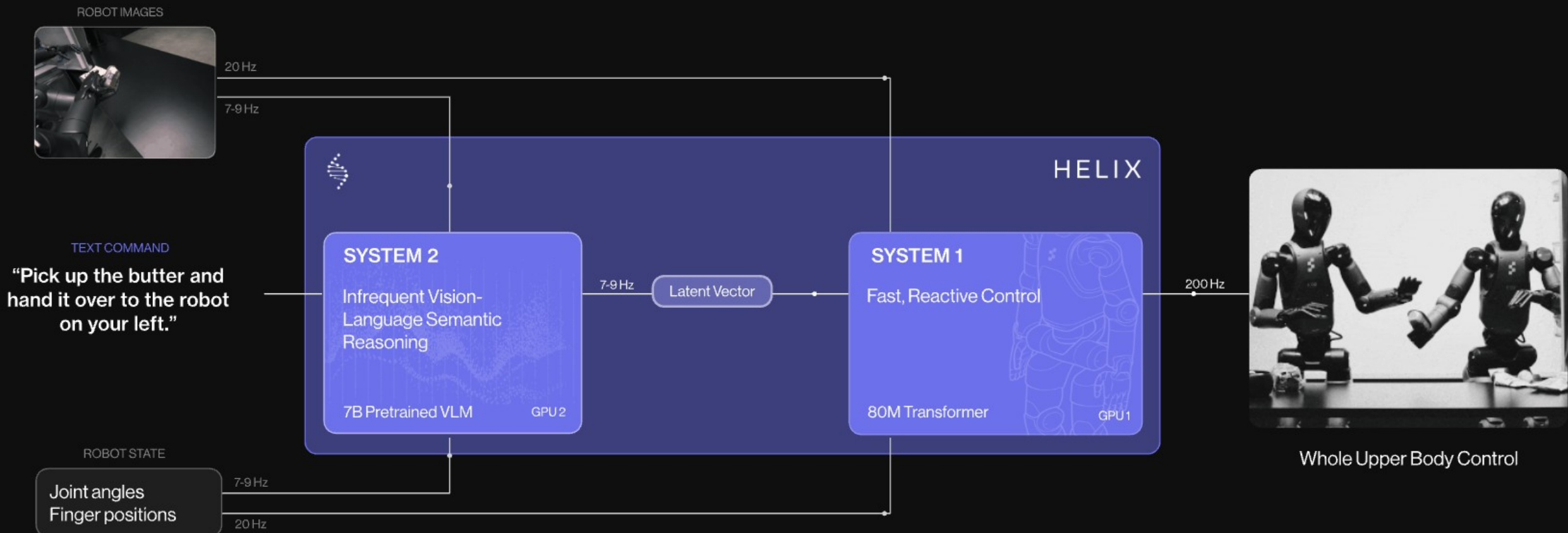


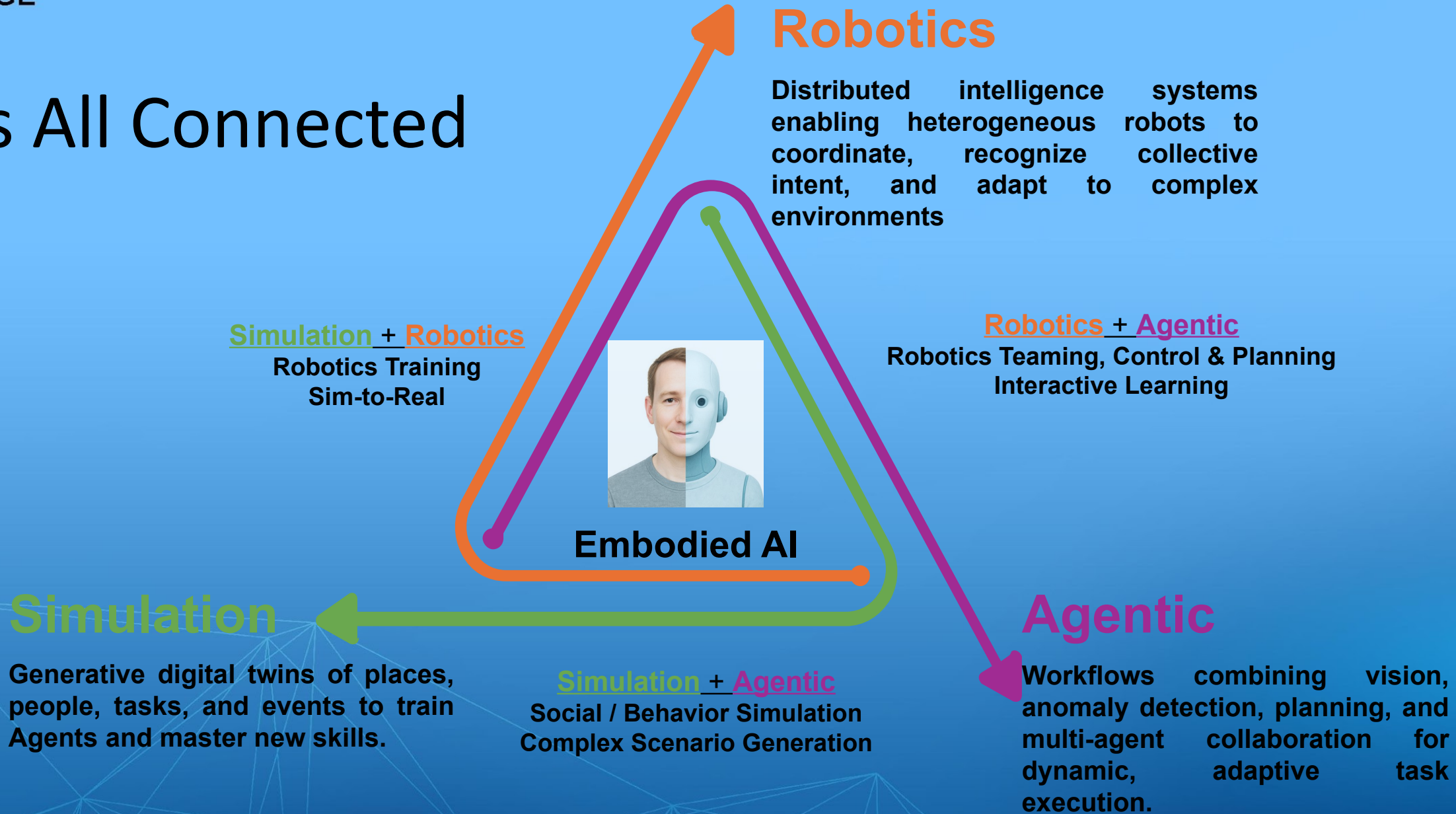
FIGURE 02



Embodied AI Agent



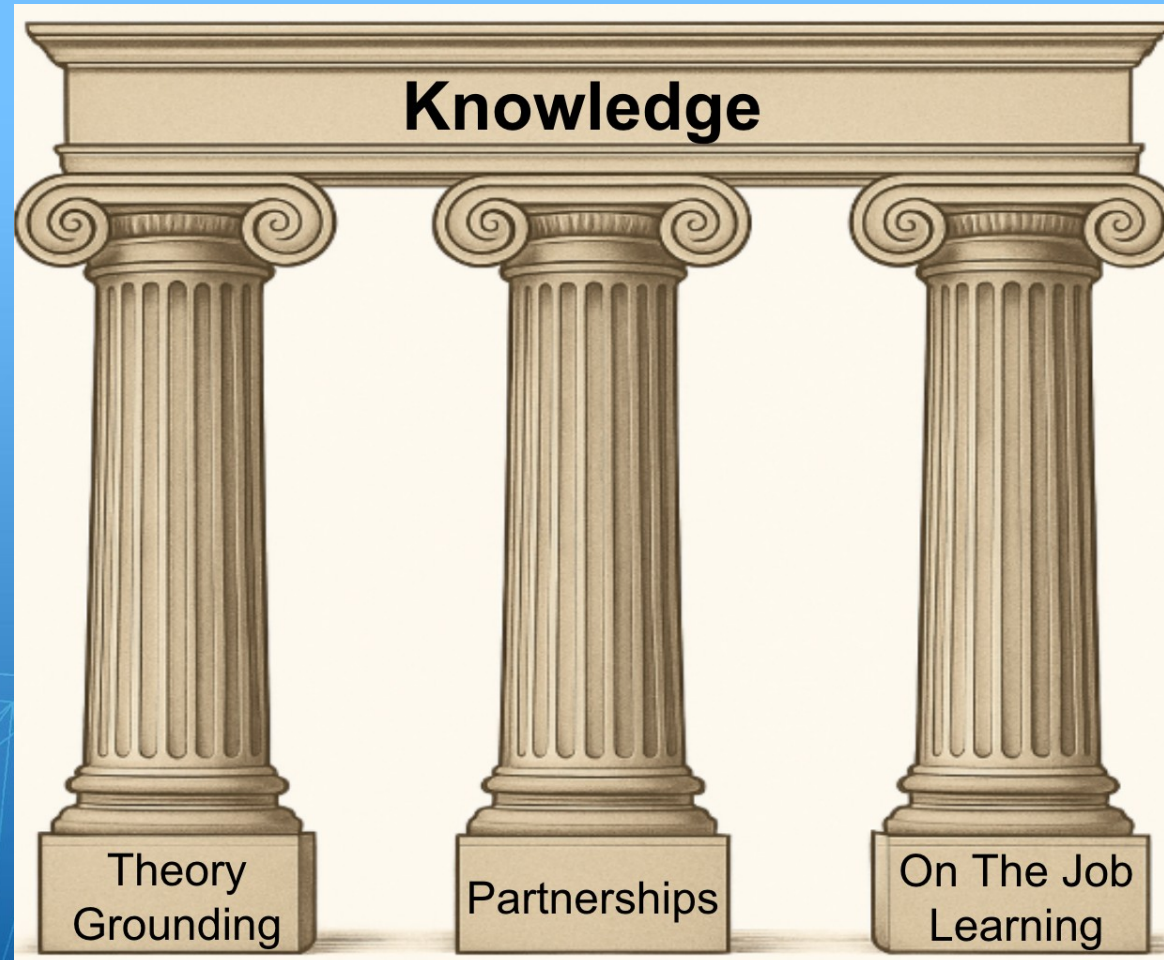
It Is All Connected



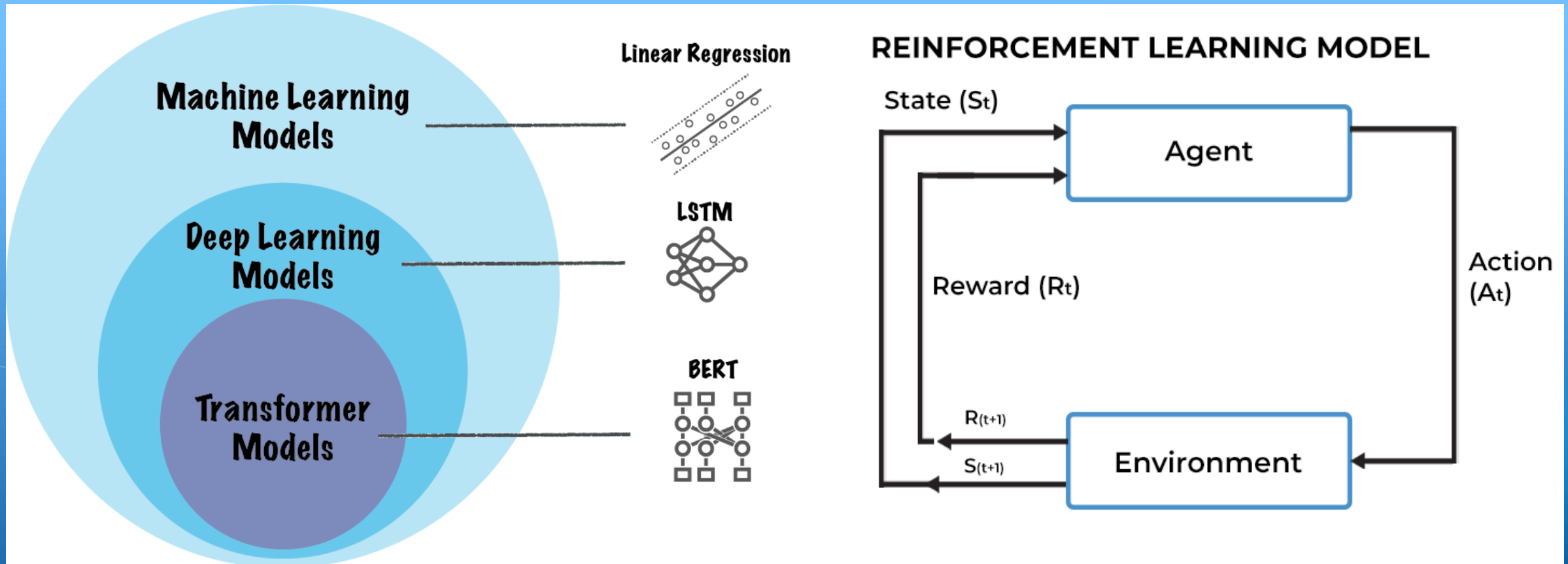
How to keep up?



How To Keep Up?



Theoretical Grounding



Partnerships With Researchers & Developers



On-the-Job Learning: Expectations vs Reality

Testing new AI solutions and building small POCs are the best ways to find out what works and what is just a marketing gimmick.

People that say that AI will take over the world:



My own AI:



Bonus



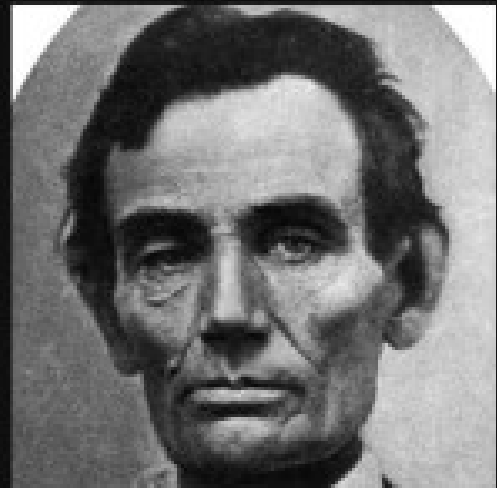
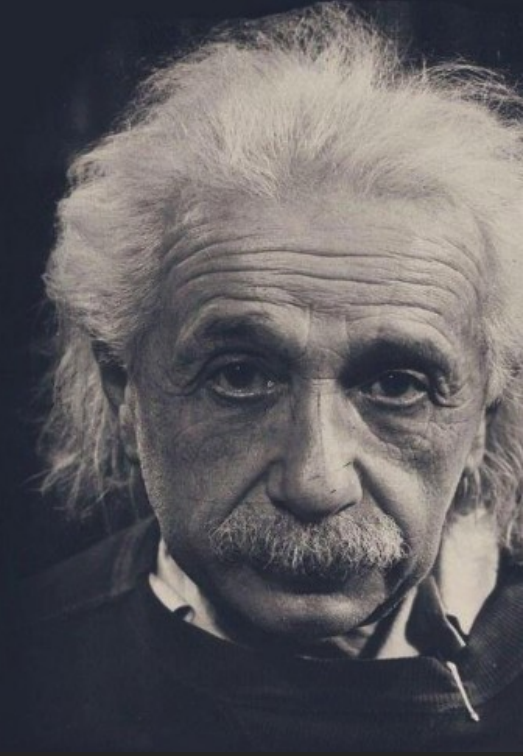


Ray Dalio

“One of the most important decisions you can make is who you ask questions of.”

“IF I HAD AN HOUR TO SOLVE A PROBLEM I’D SPEND 55 MINUTES THINKING ABOUT THE PROBLEM AND 5 MINUTES THINKING ABOUT SOLUTIONS.”

ALBERT EINSTEIN



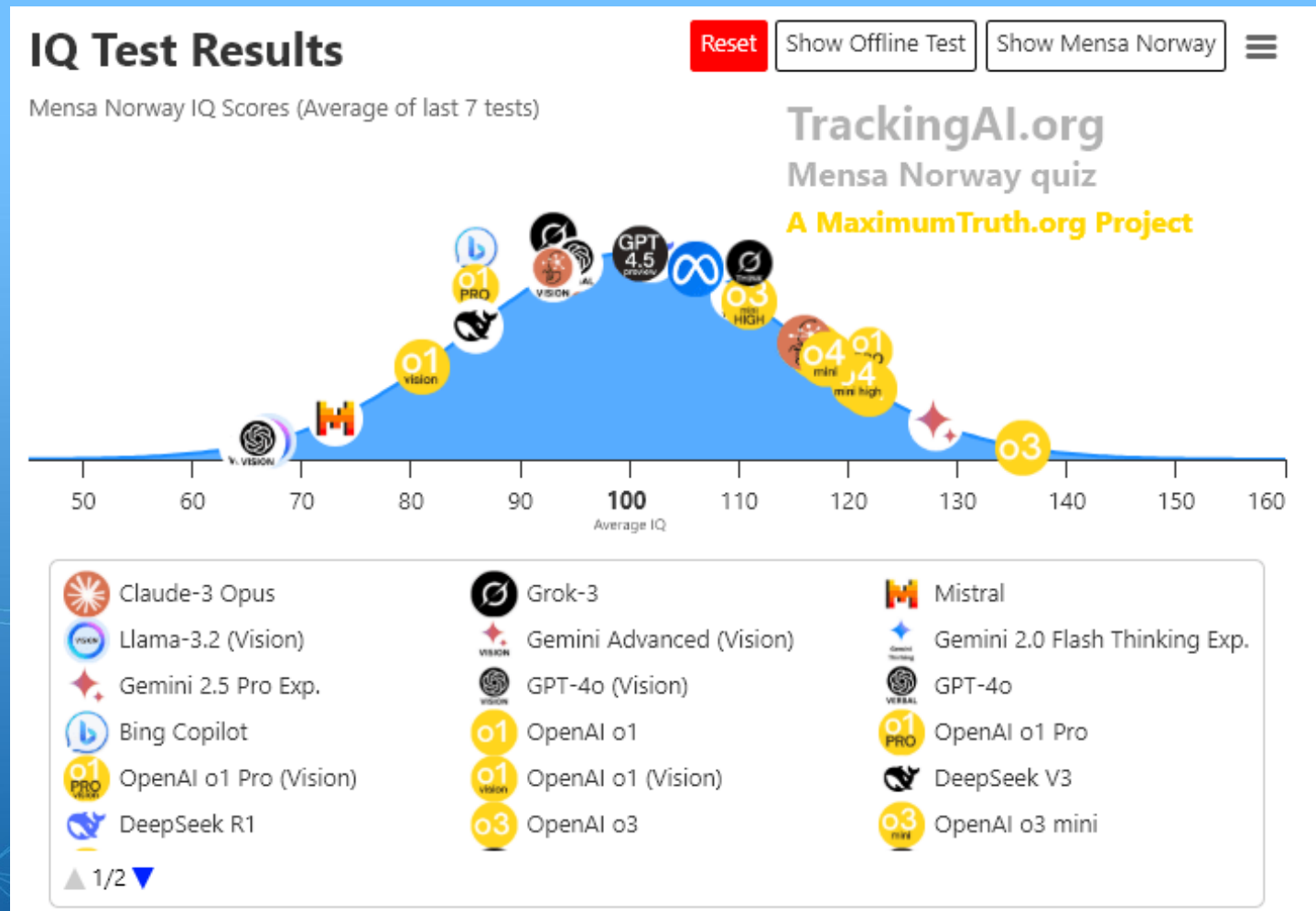
Give me six hours to chop down a tree and I will spend the first four sharpening the axe.

~ Abraham Lincoln

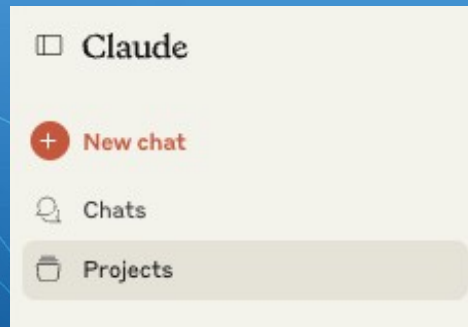
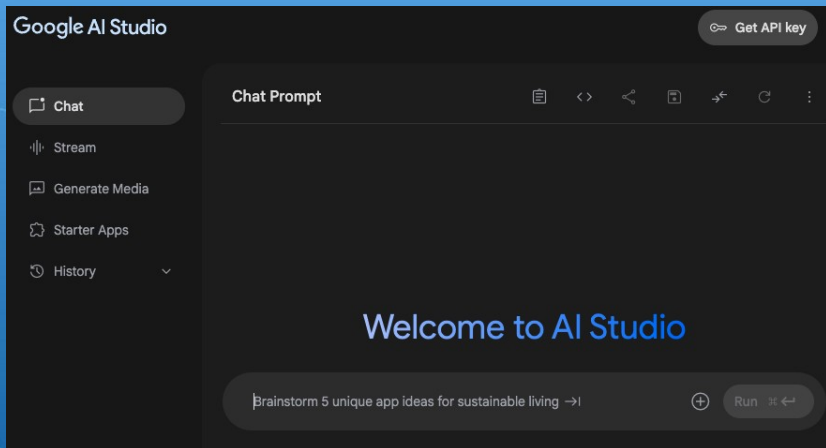
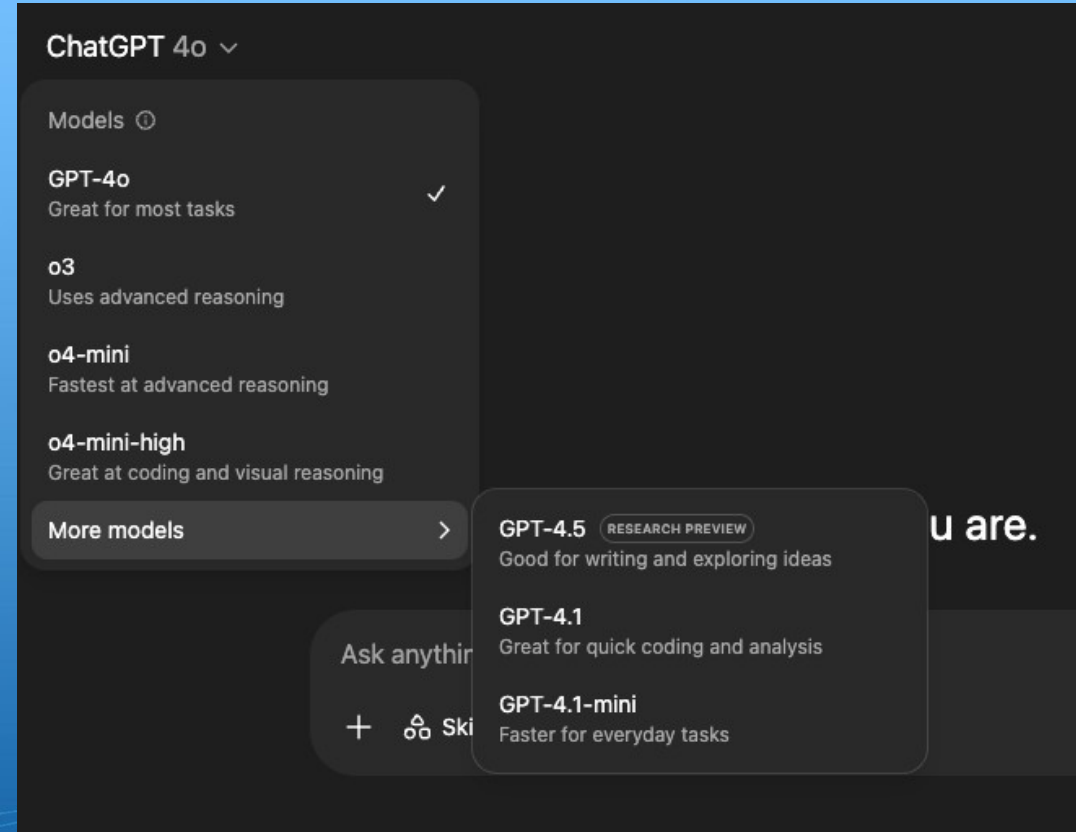
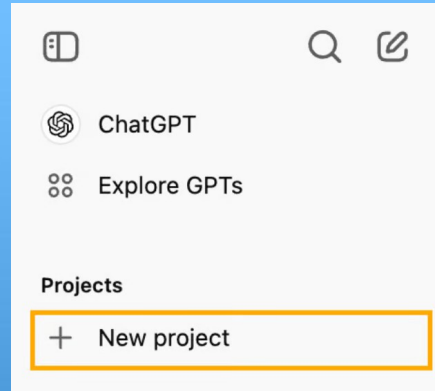
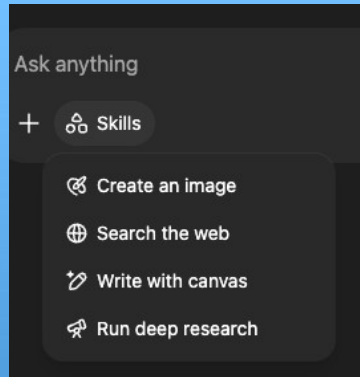
TO ASK THE RIGHT QUESTION IS ALREADY HALF THE SOLUTION OF A PROBLEM.

- CARL JUNG -

OpenAI's o3 IQ Surpassed 98% of Humans



Assistant, Researcher, Partner, Teacher



u are.

Q&A





Connect Via LinkedIn

We are hiring !!!

Michal Polanowski, MBA, PhD
Head of Generative AI. Building
Agentic Solutions.

