

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

Dr. Michal Polanowski Head of Generative Al

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





DELHAIZE #SGROUP



https://www.linkedin.com/in/ polanowskimichal/





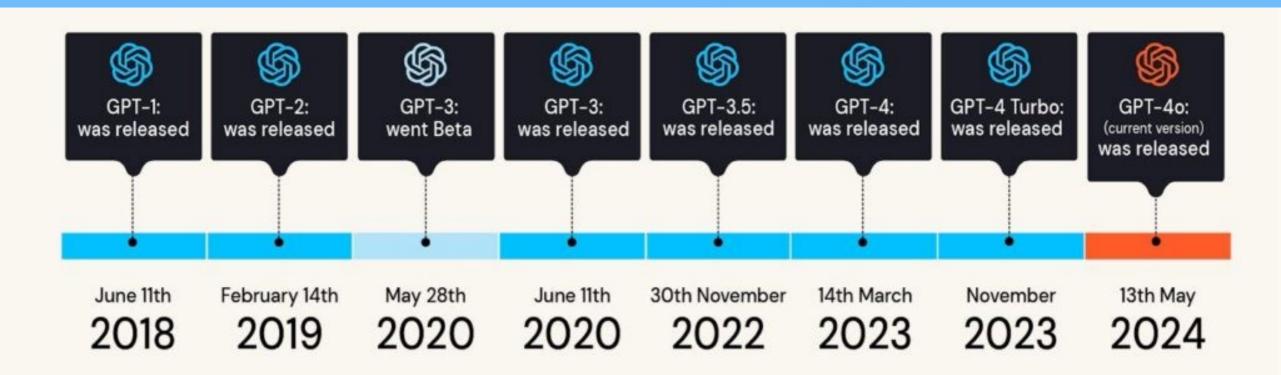
Gemini 6 OpenAl



Background

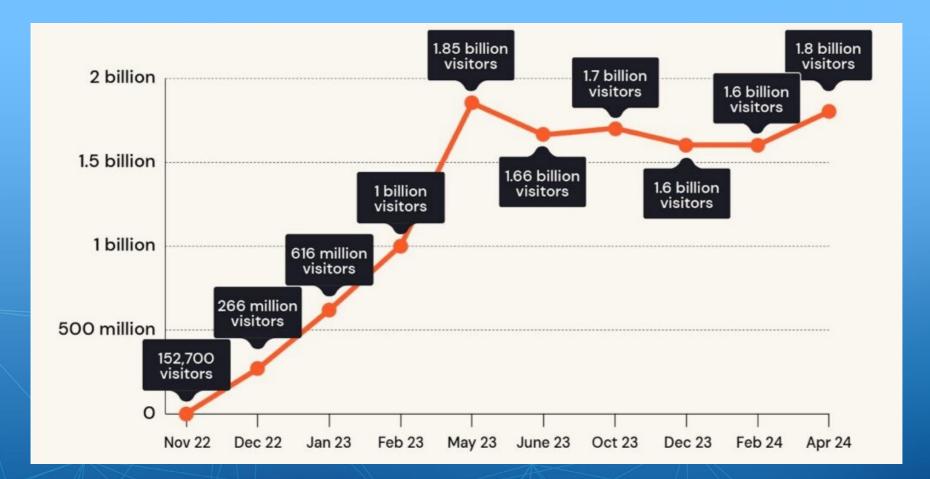


30th November 2022 Changed A LOT





ChatGPT Became A Success





Reactions Were Mixed

ChatGPT: Amazing Al 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. **Stanford**Report

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 Al 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

Which industries use AI the most?									
	0% 2	0% 40%	60%	80% 100)%				
Industry	Regularly use for work	Regularly use for work and outside work	Regularly use outside of work	Have tried at least once	No exposure	Don't know			
Business, legal & professional services	19%	38%	6%	28%	3%	3%			
Media & telecom	15%	30%	23%	24%	3%	5%			
Technology	15%	39%	9%	32%	2%	1%			
Healthcare, pharma, & medical products	14%	17%	8%	51%	3%	3%			
Energy & materials	8%	27%	26%	29%	2%	2%			
Consumer goods & retail	8%	25%	16%	38%	2%	2%			
Financial services	8%	18%	22%	43%	3%	3%			
Advanced industries	7%	20%	26%	34%	3%	3%			



What is next?

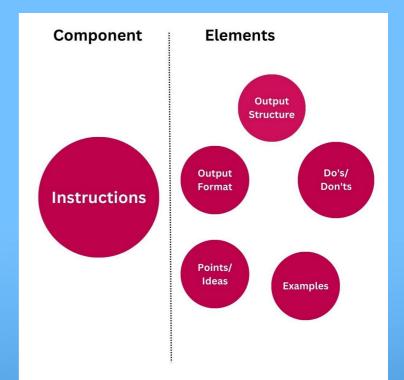


Prediction is very difficult, especially about the future. Niels Bohr



First, lets we have a quick poll

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

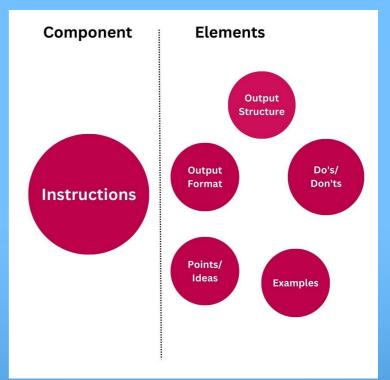




First, lets we have a quick poll

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

Simulation + Robotics Robotics Training Sim-to-Real

Embodied Al

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

Robotics + Agentic

Robotics Teaming, Control & Planning Interactive Learning

Agentic

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

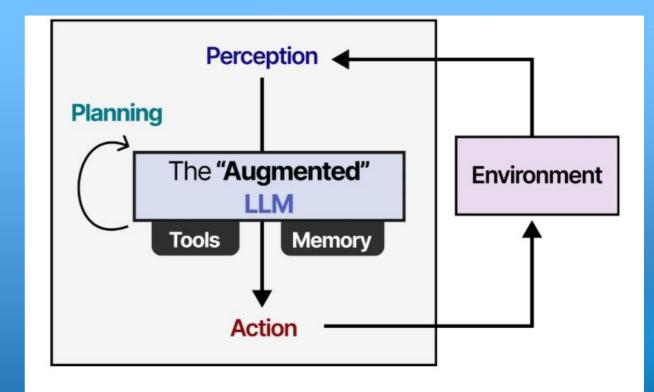






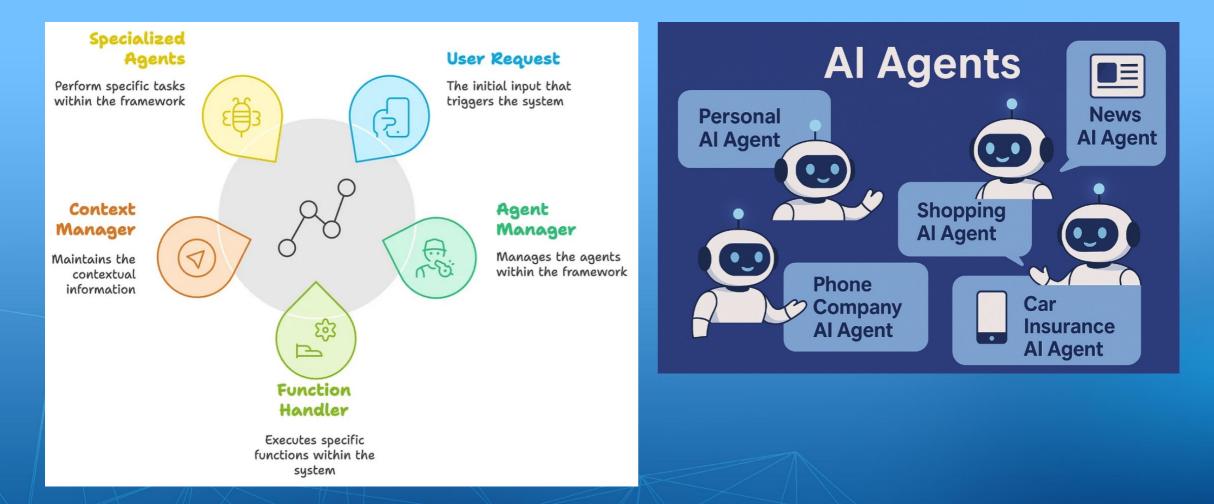
Al Agents Will Be A Crucial Part of the Future

An Al agent is an Al program capable of acting autonomously to understand, plan and execute tasks. Al 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.



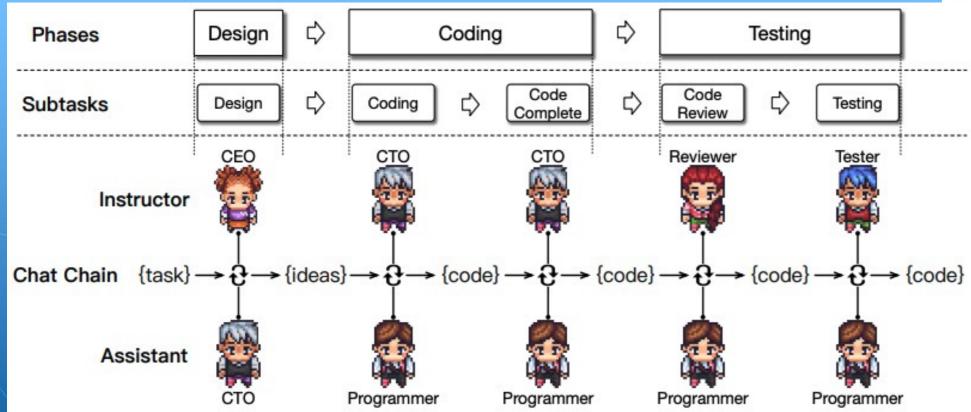


Al Agents Work Together To Achieve Tasks



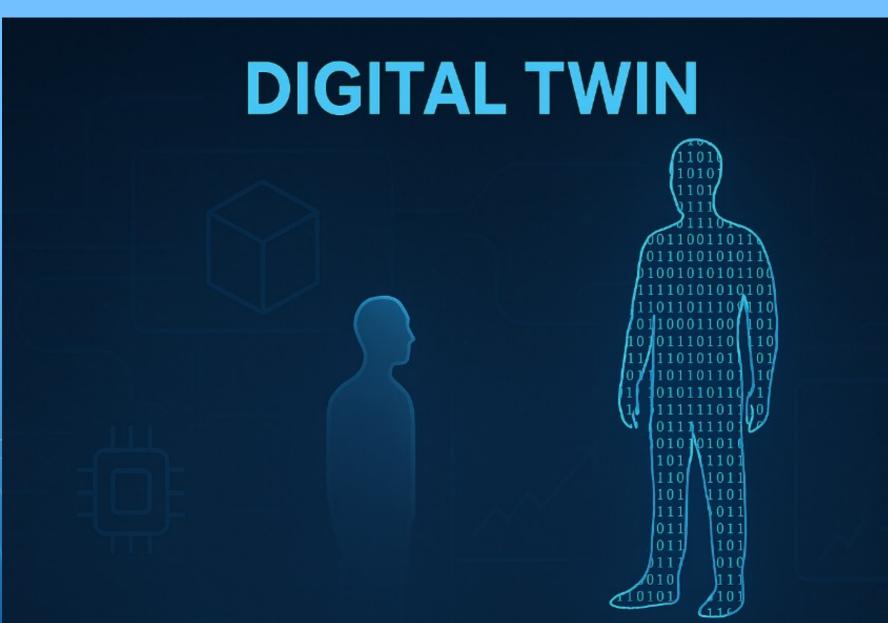


ChatDev: Agents Develop Software











∧ ADULT LEARNING XCHANGE

IKEA's Digital Twin: Millions Saved in 9 Months

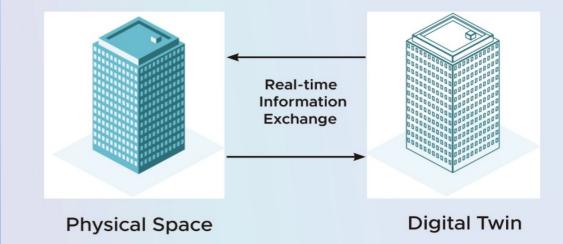
IKEA digitized 37 stores across East Asia, integrating 7,000 data points from IoT, energy, and HVAC systems into a digital twin. By optimizing 6,000 HVAC, they cut HVAC energy use by 30%—saving millions annually.

Standard Building Systems

Siloed, proprietary, single system reporting, spreadsheets, graphic 2D models

Digital Twin Systems

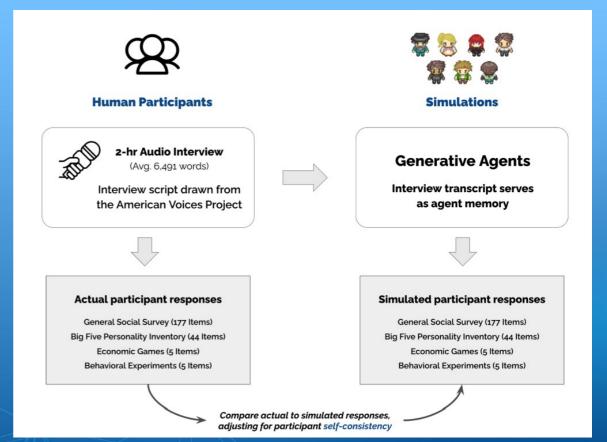
Integrated, open-source systems, multi-system analytics, cloud-based data platforms, dynamic 3D models





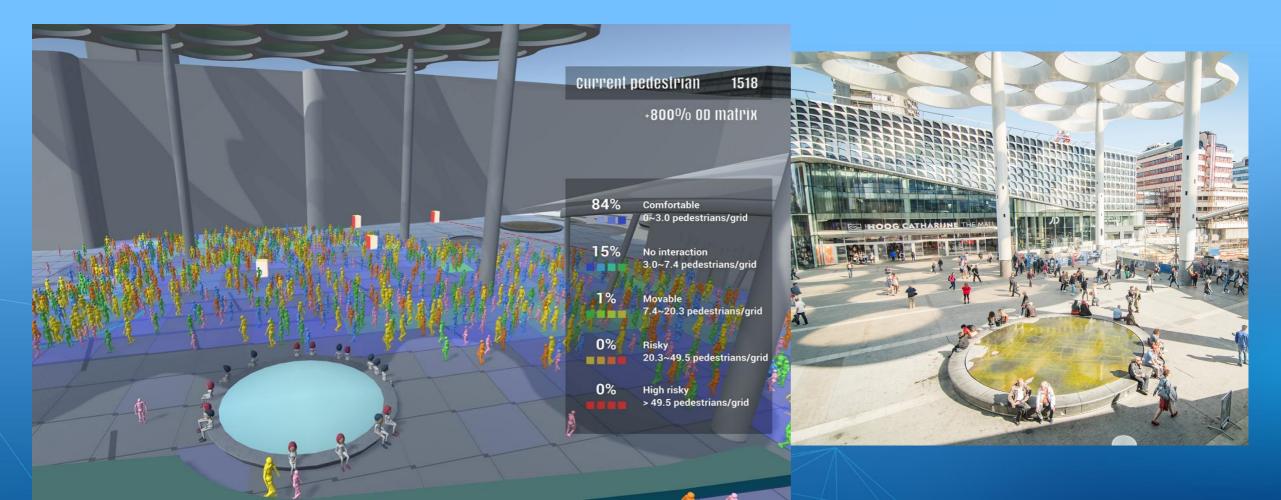
Scaling Human Insight with AI Digital Twins

Al 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.

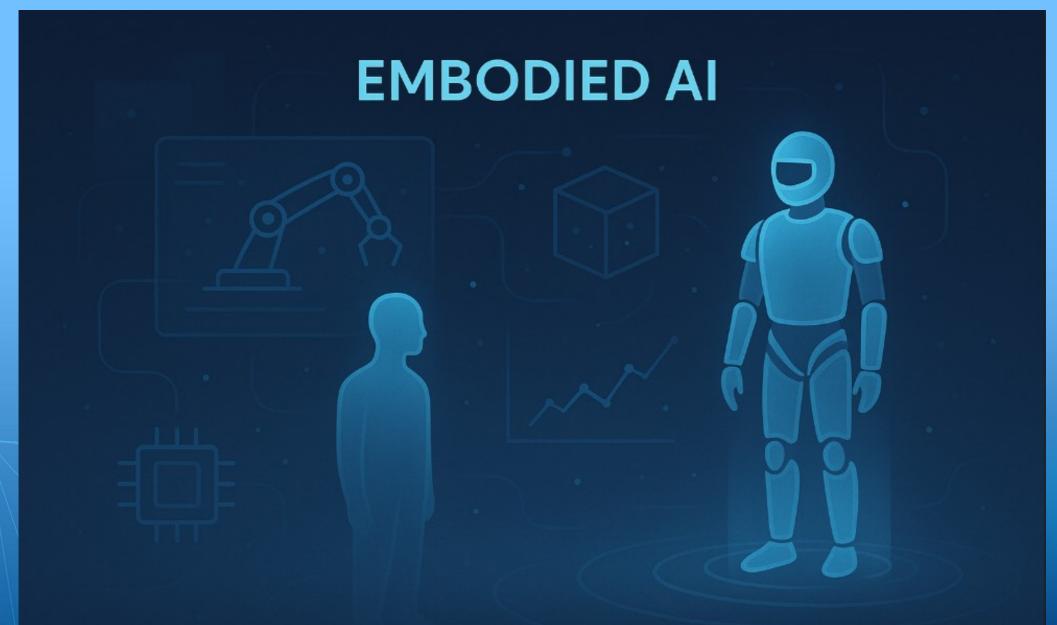




Crowd Simulation at Utrecht Stationsplein









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

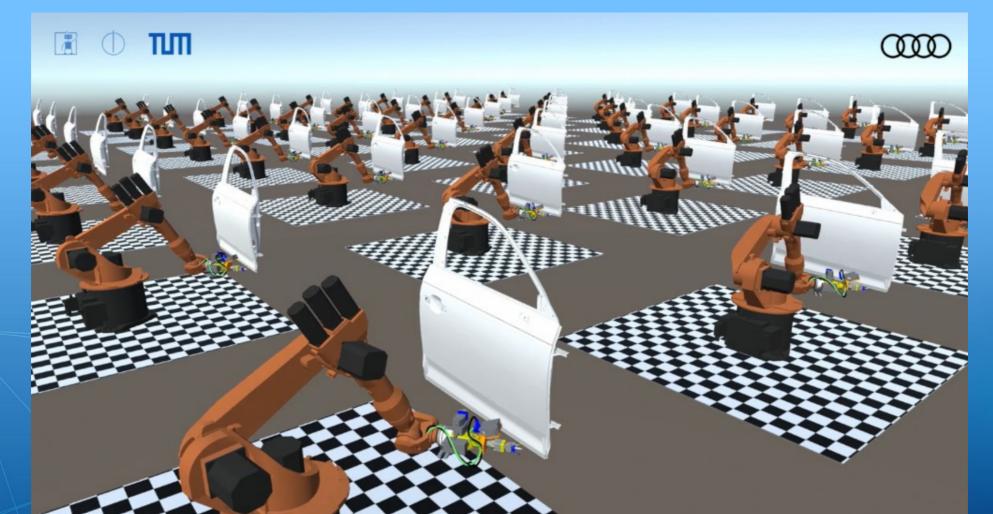


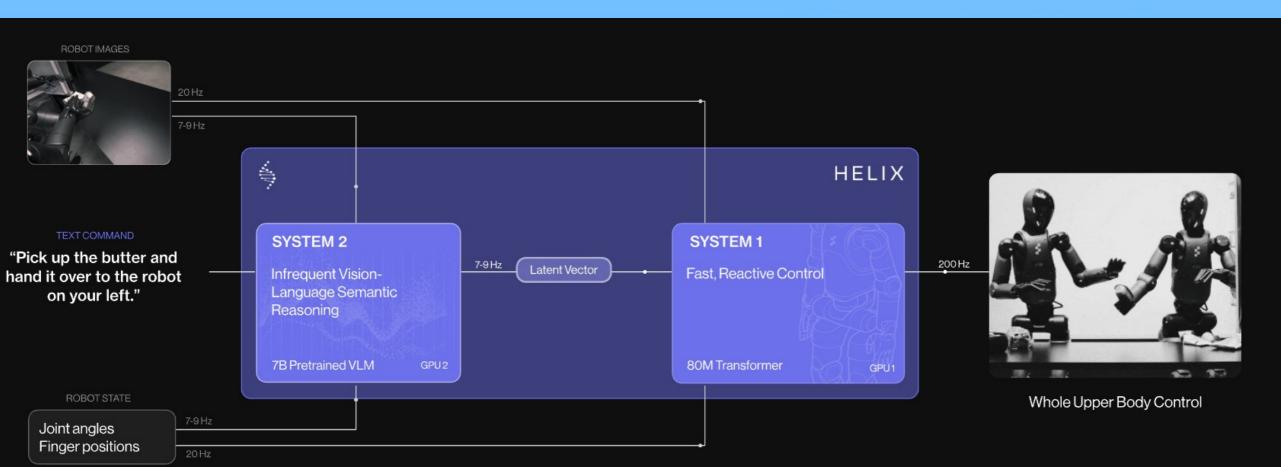
FIGURE 02

-

F.02



Embodied AI Agent





It Is All Connected

Simulation + Robotics Robotics Training Sim-to-Real

Embodied Al

Simulation

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

imulation + Agentic

Social / Behavior Simulation Complex Scenario Generation

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

Agentic

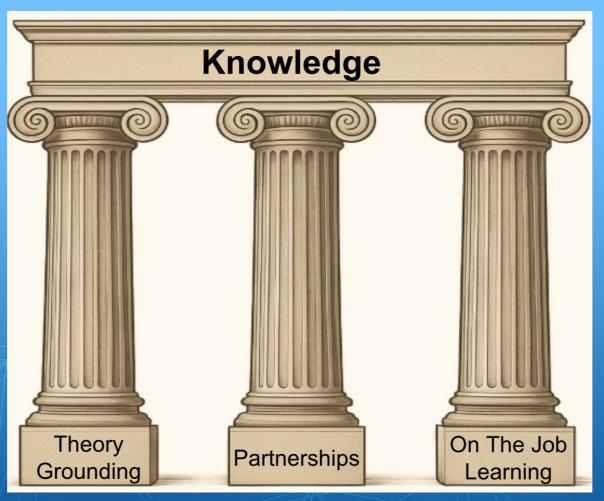
Workflows combining vision, anomaly detection, planning, and multi-agent collaboration for dynamic, adaptive task execution.



How to keep up?

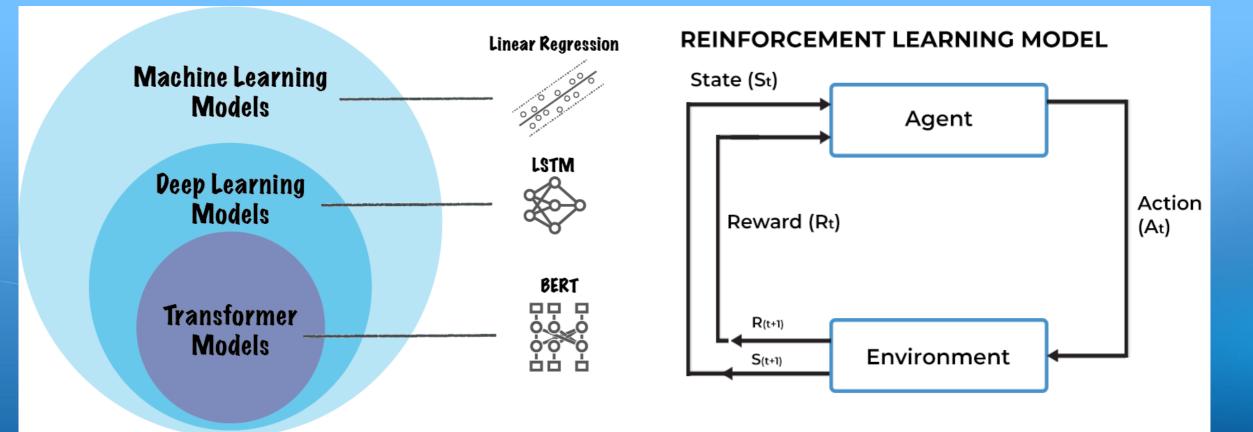


How To Keep Up?





Theoretical Grounding





Partnerships With Researchers & Developers







On-the-Job Learning: Expectations vs Reality

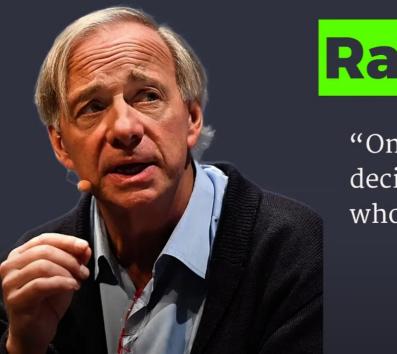
Testing new AI solutions and building small POCs are the best ways to find out what works and what is just a marketing gimmick. People that say that AI will take over the world:

My own Al:





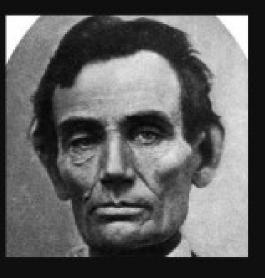
Bonus



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.

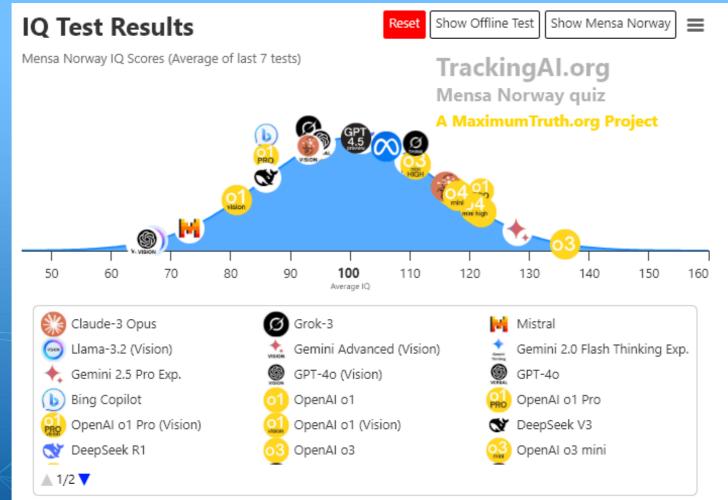
~ Abraham Lincoln

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

- CARL JUNG -



OpenAl's o3 IQ Surpassed 98% of Humans





Assistant, Researcher, Partner, Teacher

Google Al Studio	Ask anything + ⊕ Skills ♥ Create an in ⊕ Search the ♥ Write with o ♥ Run deep re	web anvas	 ChatGPT Explore GPTs Projects New project 	QC	ChatGPT 40 ~ Models ① GPT-40 Great for most tasks 03 Uses advanced reasoning 04-mini Fastest at advanced reasoning 04-mini-high Great at coding and visual reasoning			
□ Chat · · Stream □ Generate Media □ Starter Apps ① History ✓	Welcome to Al Stud Brainstorm 5 unique app ideas for sustainable living →1		 Claude New chat Chats Projects 		More models	> Ask anythir + & Ski	GPT-4.5 RESEARCH PREVIEW Good for writing and exploring ideas GPT-4.1 Great for quick coding and analysis GPT-4.1-mini Faster for everyday tasks	u are.







Connect Via Linkedin

We are hiring !!!

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



