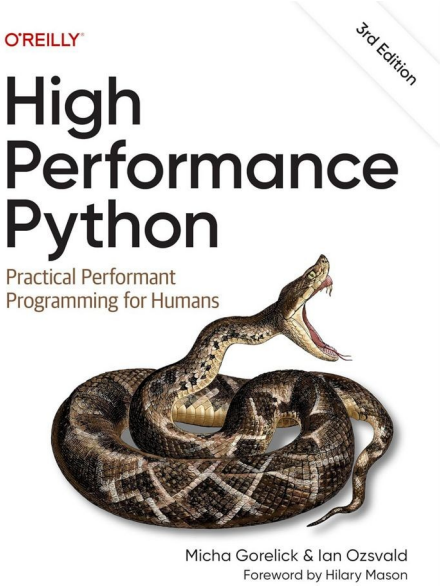
playgroup – deep dive LLM day

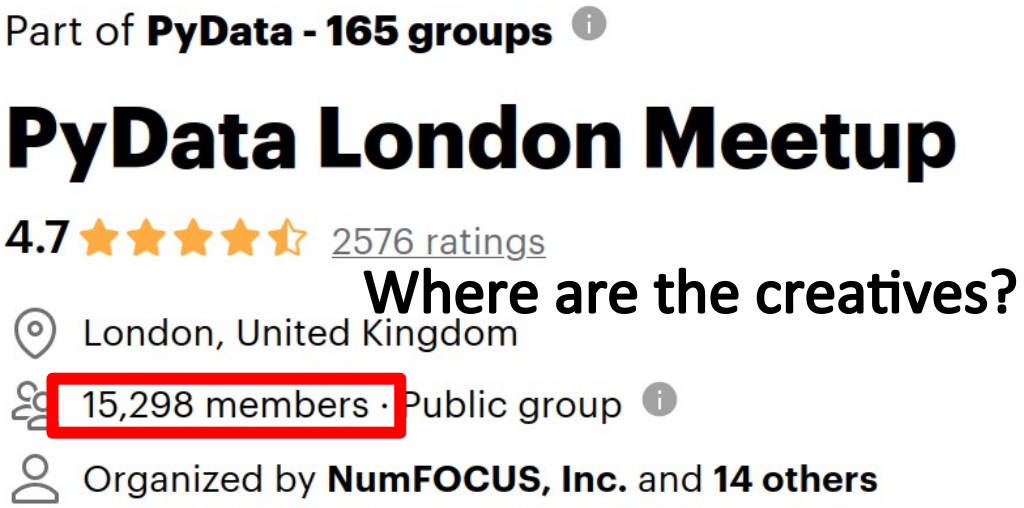
Mor Consulting 2025-06

@IanOzsvald – ianozsvald.com

Interim Chief Data Scientist

- Strategist/Trainer/Speaker/Author 25+ years
- Figuring where LLMs fit into DS





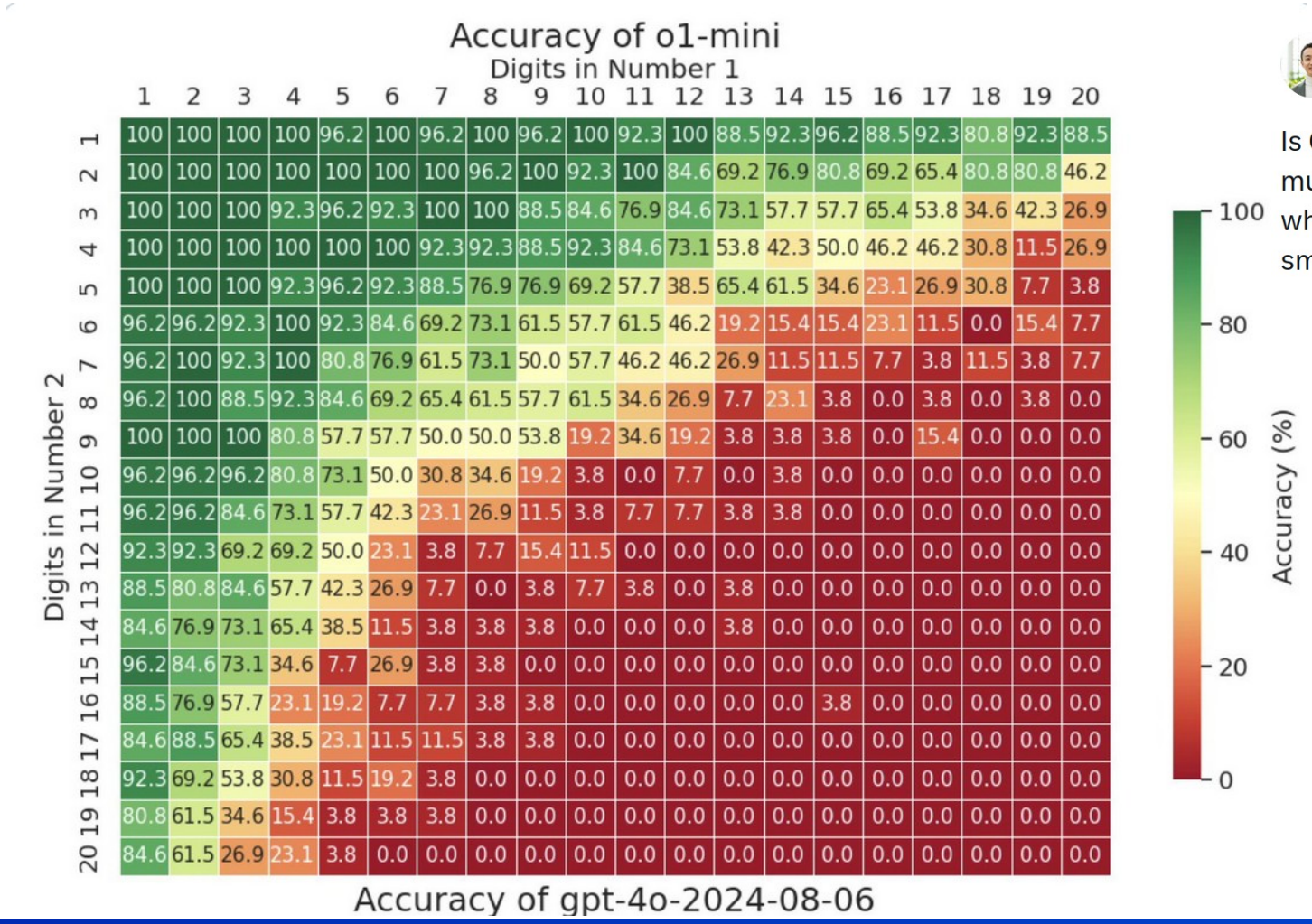
Where are the creatives?

Goal

- Will *agents take over the world* or are we living in a world of *approximate retrieval*? Is AGI nearly here?
- Can an LLM solve novel problems? See? Reflect?
- You – think on a novel problem, meet interesting folk, get your qs answered

https://x.com/yuntiandeng/status/1836114401213989366

Not so good at multiplication



Yuntian Deng ✓
@yuntiandeng

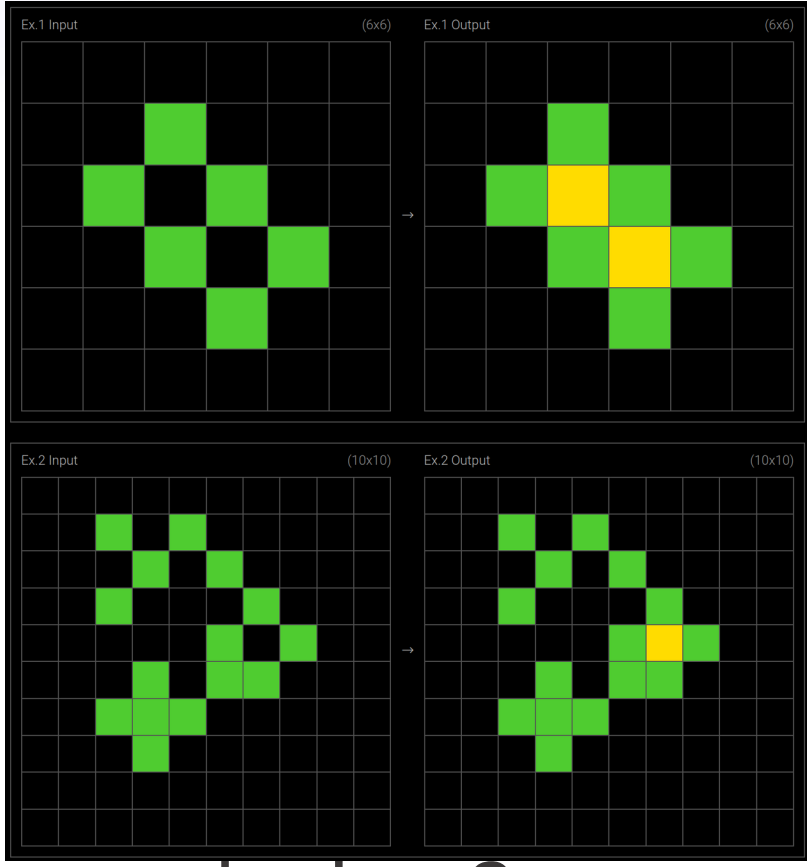
Is OpenAI's o1 a good calculator? We tested it on up to 20x20 multiplication—o1 solves up to 9x9 multiplication with decent accuracy, while gpt-4o struggles beyond 4x4. For context, this task is solvable by a small LM using implicit CoT with stepwise internalization. 1/4

Maybe it lacks short term memory and iterative processing?

Tokens – representation issues?

Approximate retrieval at work?

Agenda



- Talk about ARC AGI, try manually
- Get LLM to solve some (maybe)
- Can a vLLM describe an image? Can you make img?
- Can an agent(?) reflect and improve?

Business thoughts

- VCs will want their cash back at some point
- Scaling is expensive – can we keep our solution?
- Keep IP in-house
- Maybe we don’t need to burn the planet on LLMs

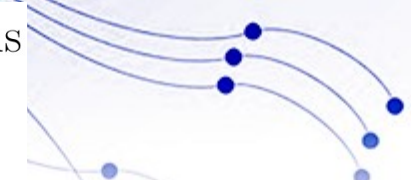
Kick off

- Do you have the Gdoc? Do you have the code?
  - Add to the Gdoc with shared notes, branch code
- **Tables – when is GenAI useful?** Share back, start in pairs, decide on someone's example to share – 15 mins

ARC-AGI-2: A New Challenge for Frontier AI Reasoning Systems

François Chollet* Mike Knoop Gregory Kamradt Bryan Landers
Henry Pinkard

May 20, 2025

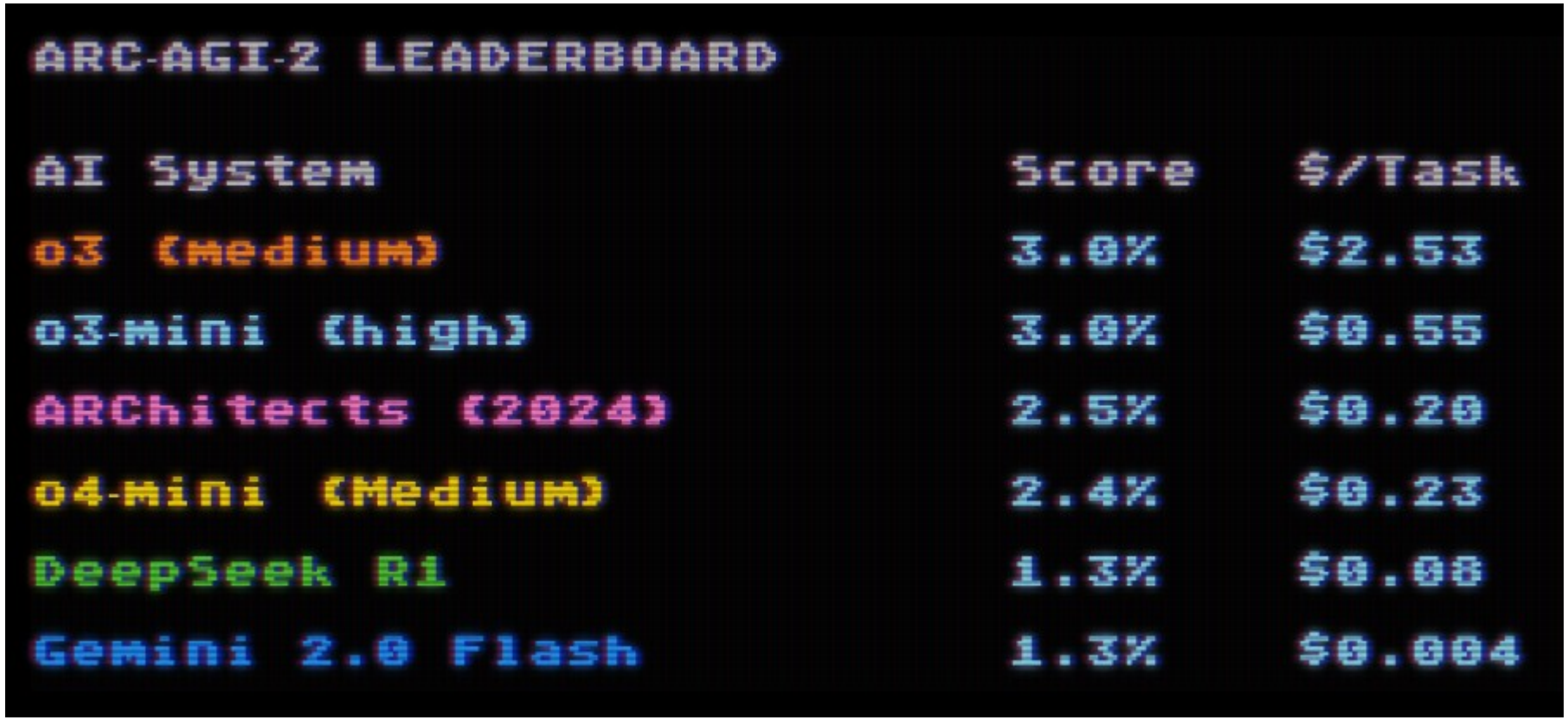


Model	ARC-AGI-1	ARC-AGI-2
o3-mini (High)	34.5%	3.0%
o3 (Medium)	53.0%	3.0%
ARChitects (ARC Prize 2024)	56.0%	2.5%
o4-mini (Medium)	41.8%	2.4%
Icecuber (ARC Prize 2020)	17.0%	1.6%
o1-pro (Low)	23.3%	0.9%
Claude 3.7 (8K)	21.2%	0.9%

- ARC AGI 1 (few years), now ARC AGI 2025
- 400+ problems, public and *private* (offline) set
- ARC AGI 1 “solved” by **GPT o3 88%** public $70k (xmas)

ARC AGI 2025 (today)

https://arcprize.org/



Stages

- Limited GPU, Llama Scout (mm) about right – how should we represent the problem? Might vision help?
- We can try DeepSeek, Opus 4 ($$$!)
- Does giving feedback help?
- Could ‘agent framework’ help? Open q

Over to you

- Run the code, notes are in the README
- I'll tell you about our stages
- Try to talk to everyone in the room (cheatsheet)

How could it do better?

- Make hypotheses, critique, rank
- Implement, get graded feedback, iterate
- Extract library of useful fns
- Writing code – solved?