

Why all the fuss? What's new ?

I started my career here has a “land information officer” in the building department of Caboolture Shire Council



We Did Development Assessment

Check the proposed development against criteria – decline, approve or approve with conditions.

One criterion is slope steepness.



```
if percent_slope > 35:  
    approved = False  
else:  
    approved = True
```

```
if percent_slope > 35:
```

```
    approved = False
```

```
    condition = "None"
```

```
elif percent_slope > 25 :
```

```
    approved = True
```

```
    condition = "Requires extensive geotechnical studies"
```

```
elif percent_slope > 15 :
```

```
    approved = True
```

```
    condition = "Requires require special engineering and grading  
permits"
```

```
else:
```

```
    approved = True
```

```
    condition = ""
```

```
if percent_slope > 35:
```

```
    approved = False
```

```
    condition = "None"
```

```
elif percent_slope > 25 :
```

```
    approved = True
```

```
    condition = "Requires extensive geotechnical studies ... "
```

```
elif percent_slope > 15 :
```

```
    approved = True
```

```
    condition = "Requires require special engineering and grading permits ..."
```

```
else:
```

```
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```

```
    condition = ""
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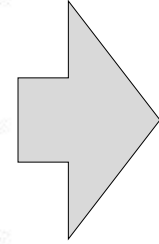
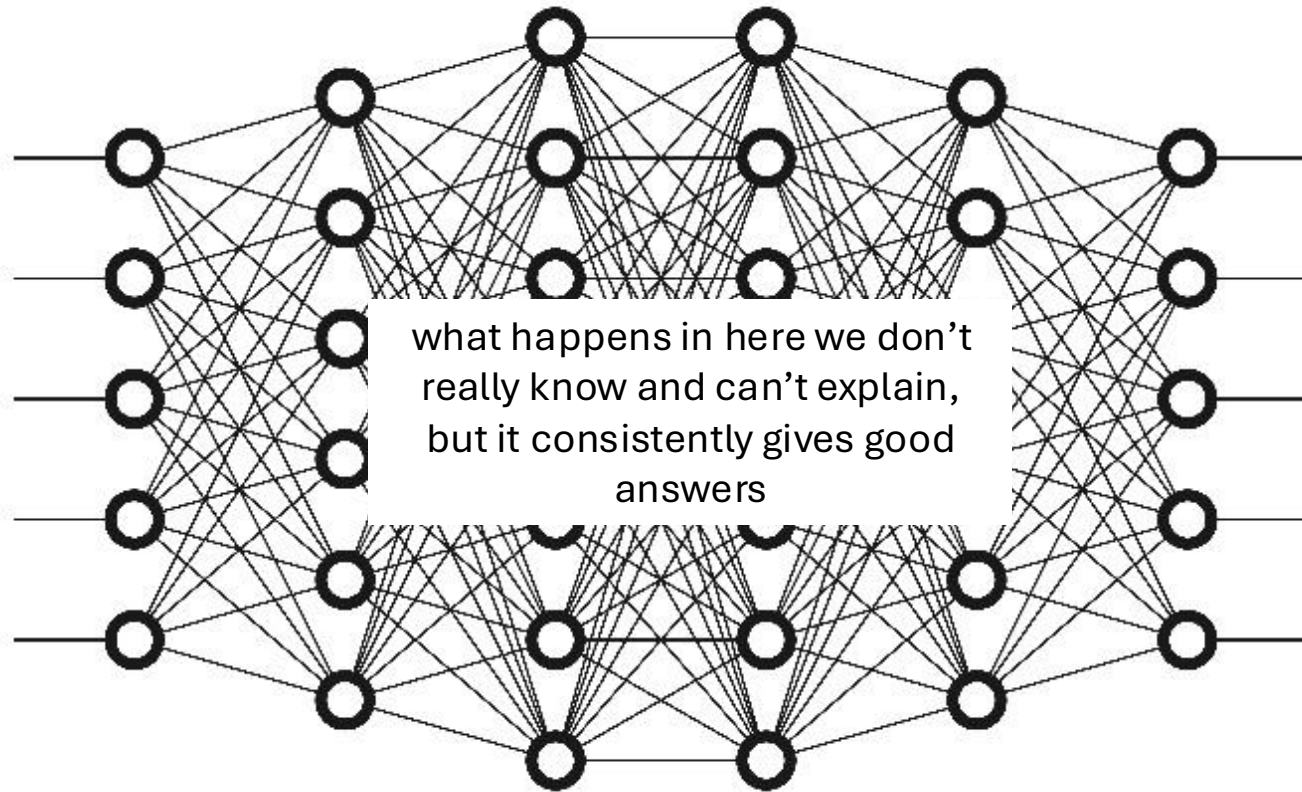
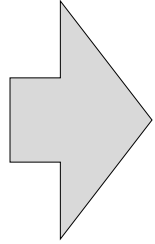
```
    condition = "Requires require special engineering and grading  
permits"
```

```
else:
```

```
    approved = True
```

```
    condition = ""
```


Textual description
Planning zone
Slope steepness / geology
Bushfire/flood zone
Heritage precinct
Building requirements/rules
Town planning rules
...



Decision

Generative Pre-trained Transformer

Vaswani *et al* (NIPS 2017)
129,753 citations and counting

OpenAI
ChatGPT
Preview 01



OpenAI suite of
foundation models
(GPT4, Dall-E2, Sora...)

Anthropic



 **Claude 3**
Sonnet 3.5



 **GROK 3**

Google

 **Gemini**

Google suite of
foundation models

 **Qwen2.5**

Deepseek
R1

 **Alibaba.com**



Copilot

Your everyday AI companion

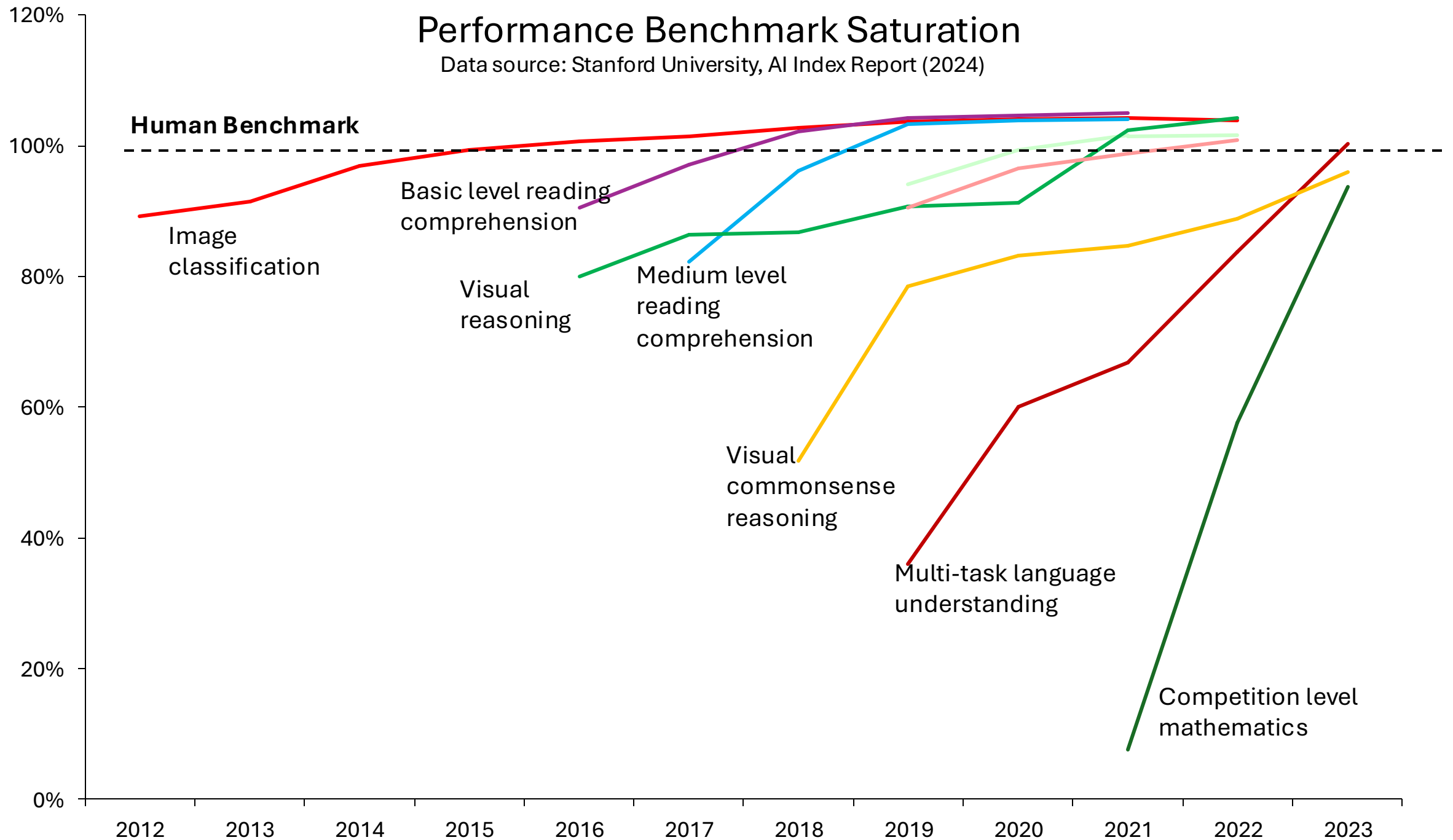
 **MISTRAL**
AI_

 **nVIDIA®**

Chat RTX

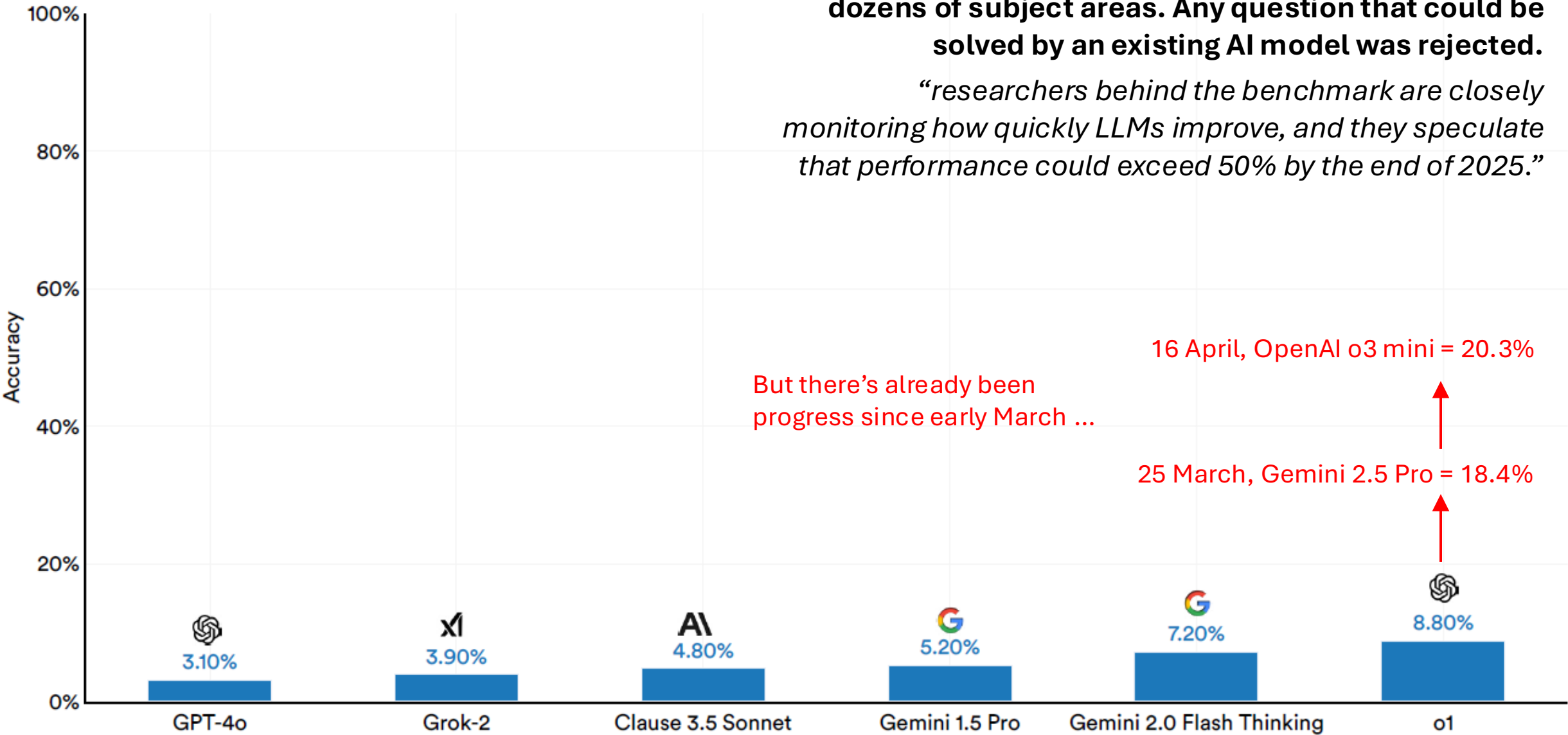
Performance Benchmark Saturation

Data source: Stanford University, AI Index Report (2024)



Humanity's Last Exam (HLE): accuracy

Source: Phan et al., 2025 | Chart: 2025 AI Index report



HLE contains 2,700 highly challenging questions across dozens of subject areas. Any question that could be solved by an existing AI model was rejected.

“researchers behind the benchmark are closely monitoring how quickly LLMs improve, and they speculate that performance could exceed 50% by the end of 2025.”

AI is now better at weather forecasting than weather forecasters

GenCast by Google Deepmind outperforms the ensemble forecast system of the European Centre for Medium-Range (up to 15-day) Weather Forecasts. It did better predictions on 97.2% of 1,320 targets evaluated and better predicts extreme weather, tropical cyclone tracks and wind power.

Price et al. (2025) Nature volume 637, pages84–90



