



NextGen Products

The Notebook.

Issue 4

Explainer Deep Dive

DeepSeek

What is it, and why does it matter?

AI tech stocks in the Nasdaq tumbled earlier this week when DeepSeek released their R1 Reasoning model.



Nvidia had almost \$600bn wiped off its market value, which is the biggest drop in US stock market history.

Why? Nvidia makes the chipsets needed to power the compute needed for AI services like ChatGPT and Gemini to learn and run.

Trade restrictions mean that DeepSeek, a Chinese company, had to use older chipsets to power their reasoning model.

The hype - and market turmoil - over DeepSeek follows a research paper published last week about the R1 model, which showed advanced "reasoning" skills.

They include the ability to rethink its approach to a math problem while, depending on the task, being 20 to 50 times cheaper to use than OpenAI's o1 model, according to a post on DeepSeek's official WeChat account.

Basically...

It's insanely expensive to train AI models, using the latest expensive chipsets made by Nvidia.

DeepSeek showed up and did this on older hardware for \$5million instead. And their models match or **beat** GPT-4 and Claude on many tasks.

As you'd expect, however, there are flaws and problems with the model.

Data privacy is a concern. All data is held in server centres based in China. Your IP, keystroke patterns, device info etc is collected, and people worry that it could be used for nefarious reasons by the Chinese state.

Conversely, Dr Lukasz Olejnik, an independent researcher and consultant affiliated with King's College London claims that the way the app is built provides for "perfect data security" as it is open source and can therefore be run locally.

Censorship also looks to be an issue. The app does not respond to seemingly controversial topics such as Taiwan and the 1989 Tiananmen Square massacre.

The release of DeepSeek R1 and V3 is a significant development in AI technologies.

TL;DR...

They've shown it can be done cheaper, and with much less energy than the existing models we're used to. That's a big win for the world, but it is fraught with political worries and concerns over privacy and censorship.