# DeepSeek’s open-source AI challenges industry giants with 685 billion parameter model



This week, DeepSeek unveiled an updated version of its R1 model on HuggingFace, reigniting discussions around the ongoing competition between open-source and closed-source AI solutions. The latest iteration, dubbed DeepSeek-R1-0528, boasts a remarkable 685 billion parameters, marking an increase from the previous January version, which had 671 billion. This evolution positions DeepSeek at the forefront of AI development, particularly as it contrasts starkly with major players like OpenAI and Google, whose models remain largely closed-source. DeepSeek claims that this updated model demonstrates enhanced reasoning and inference capabilities, thus narrowing the performance gap that has historically favoured the more established companies.

In addition to the main update, DeepSeek has rolled out a distilled version combining its R1 model with Alibaba's Qwen3 8B framework. This lightweight model is particularly noteworthy as it outperforms both Google's latest lightweight offering, Gemini-2.5-Flash-Thinking-0520, and OpenAI’s o3-mini in certain benchmarks, while being designed to operate on just a single GPU. Such advancements suggest that effective AI solutions do not necessarily mandate the extensive computational power typically associated with industry giants. By adopting an open-weight approach, DeepSeek is not only offering a more accessible and economically viable alternative but is also demonstrating that significant AI advancements can be achieved with considerably lower resource expenditure.

Despite this promising trajectory, DeepSeek's models are not without their controversies. Reports indicate that the latest updates may carry increased censorship, particularly regarding criticism of the Chinese government. This raises questions about the integrity and objectivity of models emerging from environments with stringent information controls. Moreover, as DeepSeek gains traction, the implications stretch beyond just market competition; they also touch on geopolitics and global technology dynamics. The rise of DeepSeek, especially amid current U.S.-China tensions, has sparked concerns within the American tech sector regarding national security implications and the potential for innovation to be leveraged for state purposes.

Following an array of recent product launches from tech giants like Google, Anthropic, and Microsoft, this week saw a relative lull in major AI news, making DeepSeek's R1 update particularly timely and significant. While DeepSeek captures significant attention, the AI landscape remains dynamic. For instance, Google's new Veo 3 model has already made waves across social media platforms, garnering substantial user engagement with entirely AI-generated films. Anthropic also introduced a voice mode for its Claude AI, enhancing its functionality and competing directly with offerings from ChatGPT and other established models.

Additionally, broader industry impacts are evident with analyses indicating a funding shift, as entry-level job openings decrease amidst automation trends driven by AI, with Dario Amodei, CEO of Anthropic, warning that AI could potentially displace a significant portion of entry-level white-collar positions. Such outcomes echo the findings from a recent SignalFire study, which highlighted a dramatic drop in hiring for entry-level roles from 25% to just 7%—indicative of a labour market increasingly inclined towards automation.

As the debate continues over issues ranging from censorship to job displacement, the rapid advancements of companies like DeepSeek signal that the AI race has fundamentally shifted. This new landscape complicates our understanding of what it means for nations to lead in technology, demanding a reevaluation of strategies and priorities across the sector. Such developments serve as a reminder of the highly interconnected nature of modern technological innovation—where open-source efforts can unexpectedly shift global dynamics and provoke profound discussions about the future of work, privacy, and geopolitical relations.

## Reference Map:

* Paragraph 1 – [[1]](https://mashable.com/article/deepseek-r1-update-ai-news-may-31), [[4]](https://www.reuters.com/technology/artificial-intelligence/american-ai-firms-try-poke-holes-disruptive-deepseek-2025-01-28/)
* Paragraph 2 – [[1]](https://mashable.com/article/deepseek-r1-update-ai-news-may-31), [[2]](https://www.ft.com/content/0e8d6f24-6d45-4de0-b209-8f2130341bae), [[5]](https://www.theguardian.com/commentisfree/2025/jan/28/deepseek-r1-ai-world-chinese-chatbot-tech-world-western)
* Paragraph 3 – [[3]](https://www.ft.com/content/04512d41-70a7-4b53-8b50-0c9d28c7b80e), [[6]](https://www.csis.org/analysis/deepseeks-latest-breakthrough-redefining-ai-race)
* Paragraph 4 – [[1]](https://mashable.com/article/deepseek-r1-update-ai-news-may-31), [[4]](https://www.reuters.com/technology/artificial-intelligence/american-ai-firms-try-poke-holes-disruptive-deepseek-2025-01-28/)
* Paragraph 5 – [[1]](https://mashable.com/article/deepseek-r1-update-ai-news-may-31), [[3]](https://www.ft.com/content/04512d41-70a7-4b53-8b50-0c9d28c7b80e), [[6]](https://www.csis.org/analysis/deepseeks-latest-breakthrough-redefining-ai-race)
* Paragraph 6 – [[2]](https://www.ft.com/content/0e8d6f24-6d45-4de0-b209-8f2130341bae), [[4]](https://www.reuters.com/technology/artificial-intelligence/american-ai-firms-try-poke-holes-disruptive-deepseek-2025-01-28/), [[5]](https://www.theguardian.com/commentisfree/2025/jan/28/deepseek-r1-ai-world-chinese-chatbot-tech-world-western)

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## Bibliography

1. <https://mashable.com/article/deepseek-r1-update-ai-news-may-31> - Please view link - unable to able to access data
2. <https://www.ft.com/content/0e8d6f24-6d45-4de0-b209-8f2130341bae> - The emergence of the Chinese AI start-up, DeepSeek, and its new AI model, R1, has significantly impacted the global tech industry by challenging US supremacy in artificial intelligence. R1, developed with a fraction of the resources compared to its US counterparts, can solve complex scientific problems and performed better than OpenAI's ChatGPT soon after its release. DeepSeek's breakthrough raises questions regarding the competitiveness of US AI companies and the notion that AI advancements require significant capital investments. The start-up, founded by hedge fund billionaire Liang Wenfeng, has focused on innovation without external financing, contrasting with state-backed Chinese companies bound by performance constraints. The development signifies a shift in the US-China AI race, with implications for technology cost, intellectual property, and geopolitical dynamics, potentially increasing military applications of AI. This shift has instigated a wider consideration within the US regarding maintaining technological leadership and promoting efficiency in AI development.
3. <https://www.ft.com/content/04512d41-70a7-4b53-8b50-0c9d28c7b80e> - The U.S. House China Committee has launched an investigation into Nvidia, seeking clarification on how Chinese company DeepSeek accessed export-controlled Nvidia chips to power its AI applications. Lawmakers allege DeepSeek poses a significant national security threat, describing it as a tool of the Chinese Communist Party used for surveillance and technology theft. Recent House reports criticized DeepSeek for using Nvidia chips—including the export-restricted H800 series—to develop competitive AI models, raising alarms about potential violations of U.S. export controls, which aim to prevent advanced technologies from reaching the Chinese military. Nvidia denied any wrongdoing, asserting strict compliance with U.S. government directives and clarifying that reported sales to Singapore likely involve American subsidiaries, not direct Chinese transfers. The report also links DeepSeek's data systems to Chinese firms like ByteDance and Tencent, amplifying concerns about unauthorized access to Americans' data. DeepSeek has not responded to the allegations, while China's Washington embassy dismissed the claims as politically motivated. The issue gained urgency after changes to U.S. export controls financially affected Nvidia, shaving billions from its market valuation amid fears of intensified U.S.-China tech rivalry.
4. <https://www.reuters.com/technology/artificial-intelligence/american-ai-firms-try-poke-holes-disruptive-deepseek-2025-01-28/> - DeepSeek, a Chinese AI startup, has gained significant prominence by releasing its free AI assistant which became the top app in the U.S. Apple App Store, surpassing OpenAI’s ChatGPT. This achievement, based on DeepSeek’s models trained using Nvidia’s lower-capability H800 processors with a budget under $6 million, has caused a decline in American AI stocks. U.S. AI experts, while impressed by DeepSeek's results, are analyzing its V3 model to understand its cost-effectiveness. Although DeepSeek’s $6 million claim is only for final training run expenses, this breakthrough indicates the potential of low-budget AI projects. Snowflake, a U.S. software company, has decided to include DeepSeek's models in its marketplace following customer interest. The AI industry views DeepSeek's open-source approach favorably, promoting it as a competitive and accessible alternative to high-cost proprietary models like ChatGPT. This development is challenging the dominance of major American tech firms and prompting a reassessment of the AI market’s dynamics.
5. <https://www.theguardian.com/commentisfree/2025/jan/28/deepseek-r1-ai-world-chinese-chatbot-tech-world-western> - The arrival of DeepSeek R1, an AI language model built by the Chinese AI lab DeepSeek, has been nothing less than seismic. The system only launched last week, but already the app has shot to the top of download charts, sparked a $1tn (£800bn) sell-off of tech stocks, and elicited apocalyptic commentary in Silicon Valley. The simplest take on R1 is correct: it’s an AI system equal in capability to state-of-the-art US models that was built on a shoestring budget, thus demonstrating Chinese technological prowess.
6. <https://www.csis.org/analysis/deepseeks-latest-breakthrough-redefining-ai-race> - On January 20, contrary to what export controls promised, Chinese researchers at DeepSeek released a high-performance large language model (LLM)—R1—at a small fraction of OpenAI’s costs, showing how rapidly Beijing can innovate around U.S. hardware restrictions. This launch was not an isolated event. Ahead of the Lunar New Year, three other Chinese labs announced AI models they claimed could match—even surpass—OpenAI’s o1 performance on key benchmarks. These simultaneous releases, likely to be orchestrated by the Chinese government, signaled a potential shift in the global AI landscape, raising questions about the U.S. competitive edge in the AI race. If Washington doesn’t adapt to this new reality, the next Chinese breakthrough could indeed become the Sputnik moment some fear.
7. <https://www.searchenginejournal.com/deepseek-r1-the-open-source-ai-challenging-chatgpt/538265/> - DeepSeek-R1 is a new AI reasoning model from the Chinese company DeepSeek. Released on January 20, it offers a cost-effective alternative to ChatGPT. DeepSeek-R1 has advanced reasoning skills that help it solve complex problems in math, logic, and coding. People praise its ability to mimic human-like thinking. It breaks problems down into smaller steps using a “Chain of Thought” (CoT) method. As it processes its responses, DeepSeek-R1 can adjust answers in real time and experience “aha” moments while solving tricky problems. Its chain of thought continued for numerous paragraphs before finally generating a response.