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# DeepSeek vs. ChatGPT: Can China's AI Disrupt U.S. Leadership

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The competition in the field of AI has always been regarded as a battle between the US and China. Both countries wish to be at the top of this transformative sector. With the launch of DeepSeek, China seems to have made a strategic move to bridge the tech divide with America, potentially signaling its growing AI capabilities. The claim that DeepSeek could achieve significant results at such a dramatically lower cost, however, raises several critical questions about its development, methodology, and broader implications.

### The Confusing Problem of Cost

DeepSeek's developers assert that their model was developed with just 200 Nvidia chips, costing approximately 5.6 million dollars. This figure, if accurate, would indeed be a game-changer in AI development economics, making advanced AI accessible to more players globally. However, skepticism is warranted to some extent.

Independent verification is crucial to validate these claims. Without independent audits or detailed breakdowns, the actual cost and hardware specifics remain under a veil. This opacity could suggest that the publicly stated figures are not entirely reflective of the true investment.

DeepSeek's claim of achieving significant capabilities at remarkably lower costs introduces new uncertainty in the AI industry. While questions remain, DeepSeek's approach has catalyzed new competition in the AI market. This development warrants careful examination of both its possibilities and limitations.

### The Distillation Technique:

DeepSeek's development seems to have employed a technique known as "distillation." This method involves training a smaller, less resource-intensive model by leveraging knowledge from a more advanced, pre-existing model. Distillation is common in industry, especially when organizations work with their own models while managing IP and compliance. This technique has also been widely applied in the AI industry, including with Llama models, which are favored for their ease of deployment. Recently, AI experts have applied similar distillation techniques to Llama models to simplify deployment. While DeepSeek's models are complex to run due to their mixture-of-experts architecture and massive size (600B+ parameters), Llama models are much easier to deploy since they've become a de facto open standard with extensive tooling and infrastructure support.

If DeepSeek was distilled from a model like ChatGPT, this might raise ethical and legal questions about intellectual property and data usage. However, each AI actor can consume the outputs of other AI models, while they are open source for everyone! OpenAI's ChatGPT, could have been the "teacher" from which DeepSeek learned, though this would still be a direct violation of usage terms.

From the perspective of methodology and ethics, using another's model to enhance one's own without permission or acknowledgment not only might challenge the ethics of AI development but also question the fairness of the competition. If this methodology becomes standard, the race might never truly be about innovation but rather about who can distill the best from existing technologies without proper credit or compensation. The open source ecosystem – encompassing open code, open data, and open weights – will however create opportunities to accelerate competition, even without more powerful GPU-based chips in the coming days!

The reported use of distillation techniques also raises important questions about genuine innovation versus optimization. The dependency on existing models for development could indicate limitations in true technological independence. The claimed hardware requirements (200 NVIDIA chips) require independent verification, as the full computational resources might differ significantly from the reported figures.

Many experts argue that DeepSeek's contribution is primarily architectural optimization rather than true AI innovation. Accordingly, future developments are essential to verify the claims

independently, understand the dependencies clearly, assess realistic limitations, and evaluate long-term viability carefully. This moment calls for measured optimism balanced with rigorous analysis rather than assuming immediate industry transformation.

**Implications for the AI Race**

If DeepSeek's capabilities are derived from the distillation of models like ChatGPT, then China's leap forward is more about clever utilization than groundbreaking innovation. This strategic use of distillation could mean that the technological divide between the U.S. and China isn't closing through original research but through a strategic and clever adaptation.

However, the widespread use of distillation raises legal and ethical concerns. It could set a precedent where AI development becomes less about generating new knowledge and more about extracting insights from competitors, potentially stifling genuine innovation.

For small businesses and emerging markets, the promise of low-cost, high-performance AI could be globally transformative. However, if these models are built on potentially unethical practices, the long-term trust in AI solutions might be undermined.

Nonetheless, AI adoption should be guided by each player's specific needs, beyond just cost considerations. This way, small companies can leverage AI not only to compete but also to create unique market segments and original applications, as pre- and post-training of AI models requires less cost, after DeepSeek has been launched recently.

Businesses must ensure compliance with local data laws and consider non-China hosting for privacy when using DeepSeek. Engaging with the open-source community provides valuable support, while assessing data exposure risks is crucial, especially for sensitive information. To ensure effective integration, investing in training or consultancy can help bridge technical expertise gaps.

Considering these potential issues, small businesses should start with a thoughtful, measured approach to adopt responsible AI by clearly identifying specific business problems AI could help solve, rather than implementing AI just because it's trending. They may even start with small pilot projects, measure results, and expand gradually based on concrete benefits. Most importantly, small businesses, with great precaution, should maintain human oversight and the

personal touch that makes a business unique.

**Conclusion**

Small businesses can benefit from both DeepSeek and ChatGPT for the sake of innovation and operational efficiency as both will reduce the costs of training in the coming days. However, they should carefully assess their needs when choosing between DeepSeek and ChatGPT, considering the strengths of each model. By addressing their needs, small businesses can harness AI to compete in an increasingly digital landscape.

For AI competition to be truly constructive, ethical values, innovation, and transparency must remain a primary focus. We would only worsen the trust shortcoming that now exists between countries and the society that perceives AI as a remedy for major global problems. Despite global skepticism toward AI, it remains an unavoidable part of our reality.

Without these critical questions, we risk not only widening the trust gap between nations but also within the global community that looks to AI for solutions to our most pressing challenges. The industry may see evolutionary rather than revolutionary change, with existing advantages in data, infrastructure, and ecosystems remaining significant factors. As we move forward, verifying the claims around DeepSeek will be crucial in understanding whether we are witnessing a genuine leap in AI or a sophisticated illusion of progress.

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