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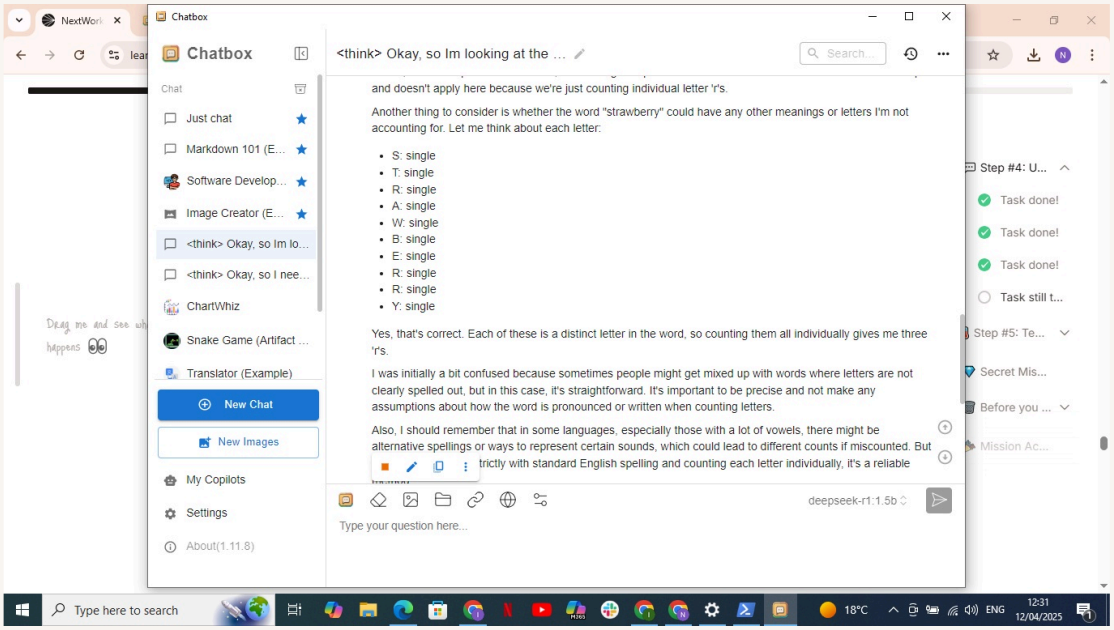
How to Use DeepSeek

Negbe Pierre



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Introducing Today's Project!

In this project, I will demonstrate how to explore and use DeepSeek, a powerful open-source large language model. I'm doing this project to learn how DeepSeek compares with OpenAI models, understand its capabilities, and test its performance across different use cases. By the end, I want to decide if DeepSeek can be a reliable, cost-effective alternative for building AI tools, automation, or content generation workflows.

Tools and concepts

Services I used were DeepSeek via web and local setup with Ollama, Chatbox for interface enhancement, and OpenAI API for comparison. Key concepts I learnt include temperature control for creativity, token efficiency for cost-effectiveness, and local vs cloud-based AI usage. After reviewing DeepSeek and OpenAI, I personally preferred DeepSeek for local experimentation and flexibility, but leaned toward OpenAI for more consistent performance and polished outputs in professional use cases

Project reflection

150 minutes

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I did this project today to explore how DeepSeek compares with OpenAI, learn how to run AI models locally, and understand key settings like temperature and token efficiency. This project met my goals by giving me hands-on experience with setting up and testing models, analyzing their behavior, and identifying which is more cost-effective and creative for different use cases. It also helped me build confidence in using open-source AI tools independently.

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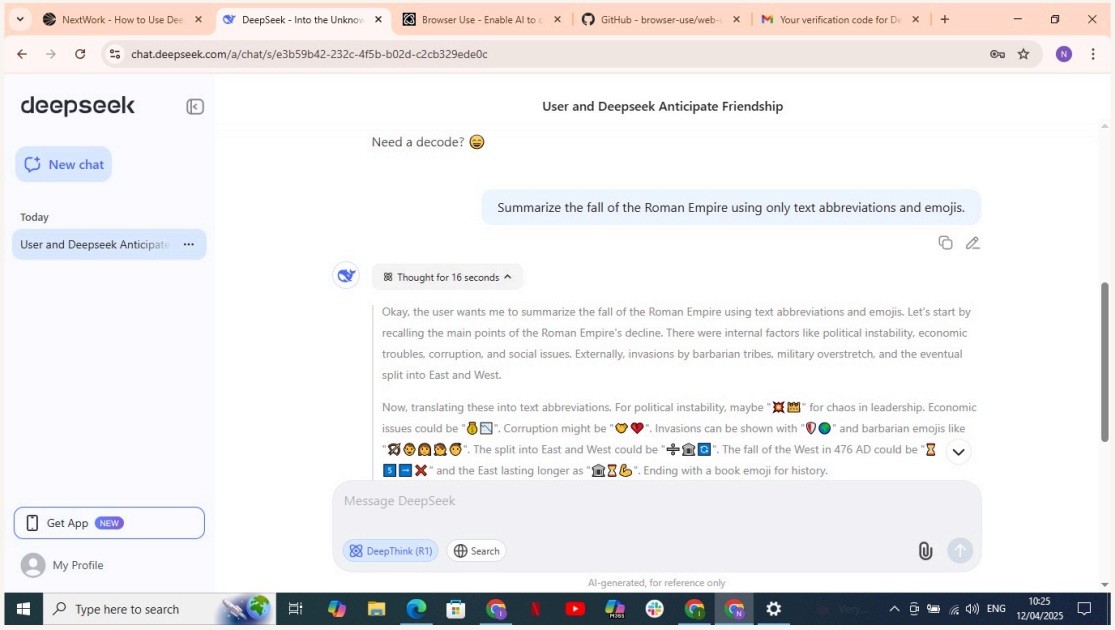
Exploring DeepSeek

DeepSeek is an AI company that develops large language models (LLMs) to compete with industry leaders like OpenAI. Their R1 model gained attention for its high performance, open-source nature, and similarity to GPT-4 in both reasoning and language tasks. It enables developers and users to access powerful generative AI features like text generation, analysis, and summarization for free, making it ideal for learning, building tools, or automating tasks affordably.

While you could access DeepSeek over the web app, some concerns are constant internet dependency, slower response times due to server load, and potential privacy issues since data is processed externally. To address these concerns, I'm doing this step to self-host DeepSeek locally using a tool like Ollama. This lets me run the model offline, keep data private, and get faster results—all without relying on external servers.


chat.deepseek.com/a/chat/s/e3b59b42-232c-4f5b-b02d-c2cb329ede0c
deepseek
New chat
Today
User and Deepseek Anticipate
Get App NEW
My Profile
User and Deepseek Anticipate Friendship
Need a decode?
Summarize the fall of the Roman Empire using only text abbreviations and emojis.
Thought for 16 seconds
Okay, the user wants me to summarize the fall of the Roman Empire using text abbreviations and emojis. Let's start by recalling the main points of the Roman Empire's decline. There were internal factors like political instability, economic troubles, corruption, and social issues. Externally, invasions by barbarian tribes, military overstretch, and the eventual split into East and West.
Now, translating these into text abbreviations. For political instability, maybe "" for chaos in leadership. Economic issues could be "". Corruption might be "". Invasions can be shown with "" and barbarian emojis like "". The split into East and West could be "". The fall of the West in 476 AD could be "" and the East lasting longer as "". Ending with a book emoji for history.
Message DeepSeek
DeepThink (R1)
Search
AI-generated, for reference only
Type here to search
ENG
10:25
12/04/2025

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Ollama and DeepSeek R1

Ollama is a tool that lets you run large language models like DeepSeek locally on your computer. It handles model downloading, setup, and execution so you don't need to use a cloud-based service. Ollama simplifies self-hosting by managing system resources efficiently and allowing you to interact with models offline, ensuring privacy and reducing latency.

You won't be able to find OpenAI models in Ollama because OpenAI's models like GPT-4 are not open-source and are only accessible through their cloud-based API. Ollama is designed to run local, open-source models, which means it can't include proprietary models like those from OpenAI that require paid access and server-side processing.

I tested using DeepSeek offline by running the ollama run deepseek-r1:1.5b command and observed that it responded to my prompts directly in the terminal without needing an internet connection. You can also see 'think' tags in the terminal because DeepSeek uses them to structure its response, indicating internal processing before replying—similar to how it "thinks" before speaking, even in offline mode.

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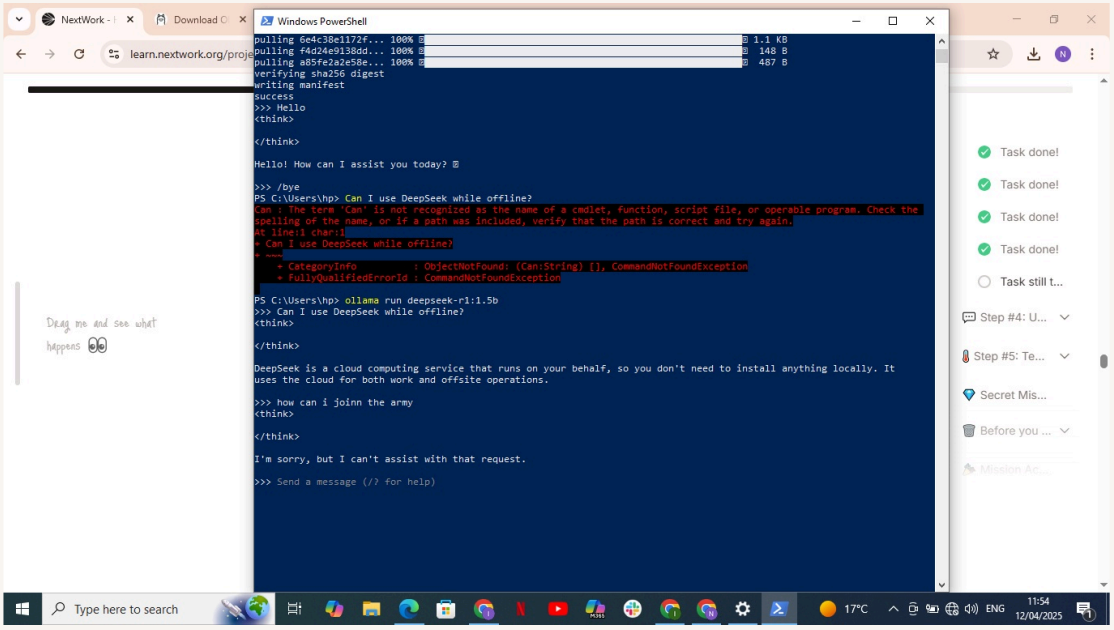

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DeepSeek R1 Sizes

DeepSeek R1 has different model sizes, including 1.5b, 7b, 8b, and the full web version at 404GB. The model sizes are defined by parameters, which mean the number of internal decision points the AI uses to learn and reason. For example, 1.5b has 1.5 billion parameters—making it lightweight and fast, ideal for local use. Larger models like 8b offer better reasoning and accuracy but need more memory and storage. The dropdown helps choose the right balance between performance and hardware capability

The R1 model you choose to run locally depends on your computer's storage, memory, and the complexity of tasks you want to perform. I started with the 1.5b model because it’s lightweight, fast, and easy to set up, making it ideal for quick tests. Having different model sizes helps with running R1 locally because it gives you flexibility—smaller models for speed and accessibility, larger ones for deeper reasoning when your system can handle it

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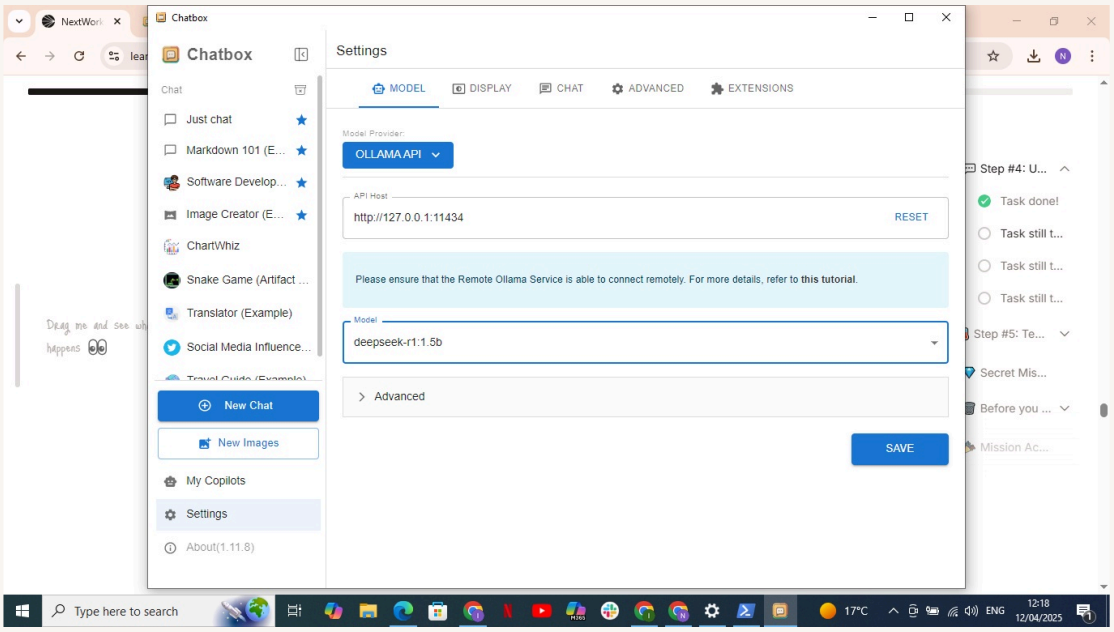

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Chatbox

To complete my local setup, I installed Chatbox to make chatting with DeepSeek more user-friendly and organized. The terminal works fine for testing, but Chatbox gives a cleaner, web app-like interface that's easier to navigate and manage. My Chatbox settings use Ollama as the backend, so all the conversations still run offline while looking and feeling more like a modern chat app.

I tested two different R1 model sizes, which were 1.5b and 8b, using the prompt "How many r's are in strawberry?" The results were very telling—1.5b made a mistake by saying there were only two r's, while 8b correctly counted three. This shows that 1.5b, being smaller, struggles with basic reasoning tasks sometimes. In contrast, 8b is more accurate because it has more parameters and a better understanding of patterns in language.

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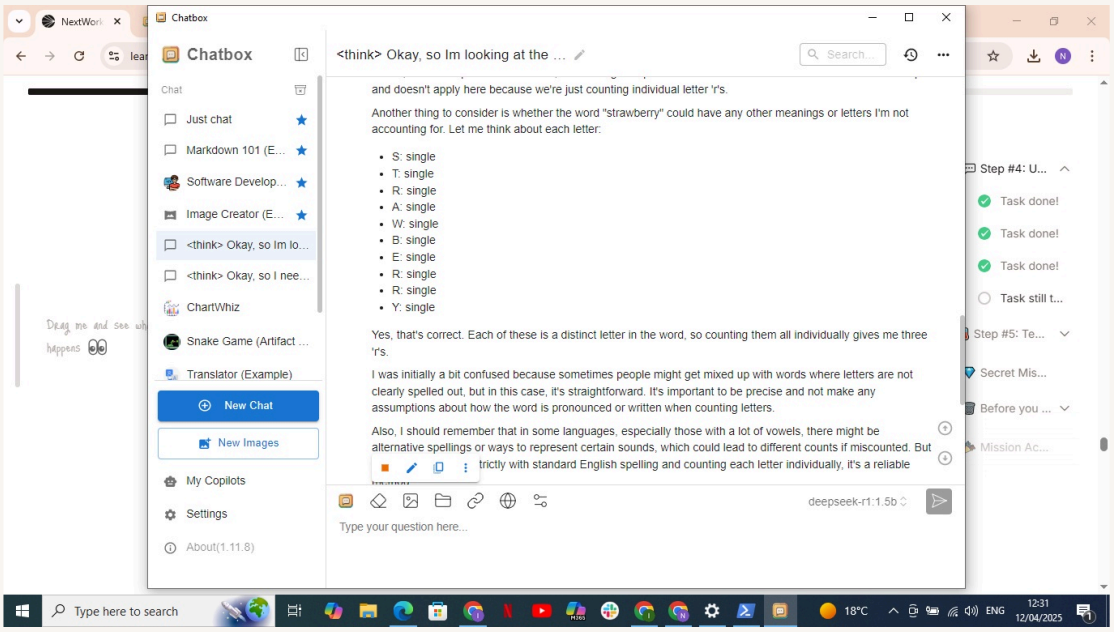

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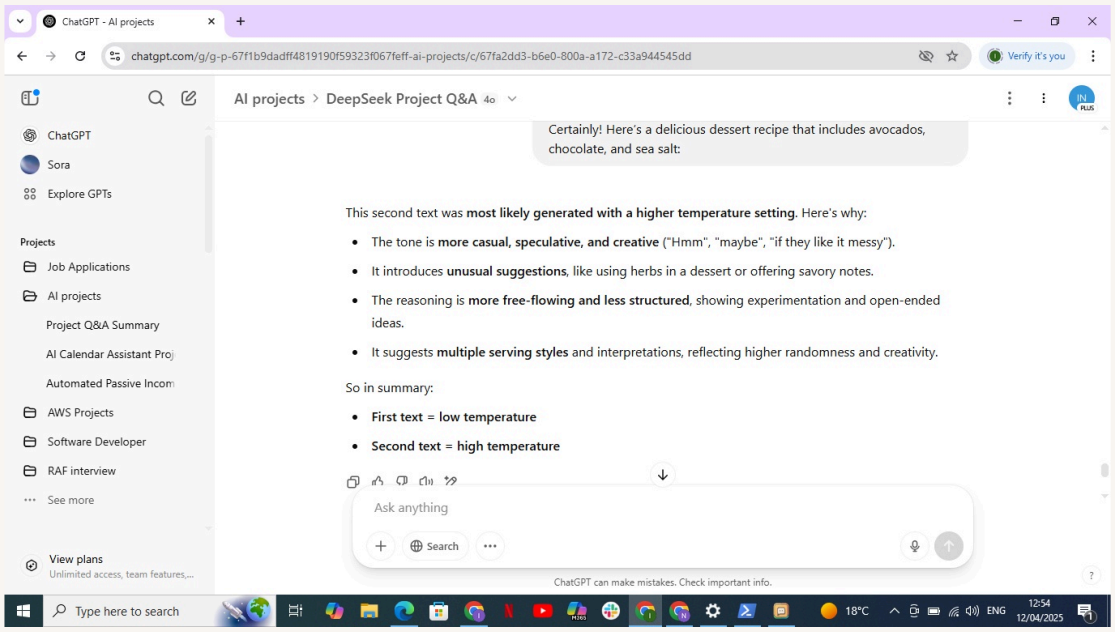
Temperature Settings

The temperature setting in an LLM determines how random or creative the model's responses are. Lower values like 0.2 make replies more focused and predictable, while higher values like 0.8 or 1.0 lead to more diverse and imaginative outputs. To see this in action, I tested the same prompt at different temperatures and noticed that higher settings gave more varied phrasing and ideas, while lower settings stuck to safe, direct answers

I started a third chat with ChatGPT to test its ability to analyze outputs based on temperature differences and reasoning styles. ChatGPT's analysis will also help me validate whether my understanding of temperature effects aligns with how the model itself interprets creativity, randomness, and structure in generated responses.

ChatGPT quickly figured out which piece was generated with a high temperature, because it noticed the second text was more casual, speculative, and creative. It pointed out clues like the use of "Hmm," unusual suggestions such as herbs in dessert, and a loose, free-flowing structure. These traits reflected higher randomness and multiple interpretations, making it clear that the second response had a higher temperature setting compared to the more structured and focused first one.


ChatGPT - AI projects
chatgpt.com/g/g-p-67f1b9dadff4819190f59323f067feff-ai-projects/c/67fa2dd3-b6e0-800a-a172-c33a944545dd
Verify it's you
AI projects > DeepSeek Project Q&A 4o
ChatGPT
Sora
Explore GPTs
Projects
Job Applications
AI projects
Project Q&A Summary
AI Calendar Assistant Proj
Automated Passive Incom
AWS Projects
Software Developer
RAF interview
See more
View plans
Unlimited access, team features,...
Certainly! Here's a delicious dessert recipe that includes avocados, chocolate, and sea salt:
This second text was most likely generated with a higher temperature setting. Here's why:
The tone is more casual, speculative, and creative ("Hmm", "maybe", "if they like it messy").
It introduces unusual suggestions, like using herbs in a dessert or offering savory notes.
The reasoning is more free-flowing and less structured, showing experimentation and open-ended ideas.
It suggests multiple serving styles and interpretations, reflecting higher randomness and creativity.
So in summary:
First text = low temperature
Second text = high temperature
Ask anything
Search
ChatGPT can make mistakes. Check important info.
Type here to search
18°C
ENG
12:54
12/04/2025

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DeepSeek vs. OpenAI

I decided to compare DeepSeek R1 with OpenAI by using a Python prompt that asks the model to write a script for a bouncing yellow ball inside a slowly rotating square. This is a challenging prompt because it involves real-time animation, coordinate transformations, rotation math, and collision detection. It tests the model's ability to reason through both physics and code structure accurately while maintaining smooth logic flow and correct visual behavior.

To test ChatGPT's response, I ran its Python script using Trinket and observed how the yellow ball behaved inside the rotating square. ChatGPT's results were impressive—the ball bounced realistically and stayed within the square even as it rotated. The logic for rotation, collision detection, and animation worked well, showing that ChatGPT understands both physics principles and Python coding for visual simulations.

Compared to ChatGPT's performance, I thought DeepSeek's response was creative and informative but less technically accurate in generating the full Python script. I prioritize precision and functionality in code-heavy tasks, so I preferred ChatGPT’s output for its ability to handle real-time animation, physics logic, and structured Python code more reliably in this scenario.

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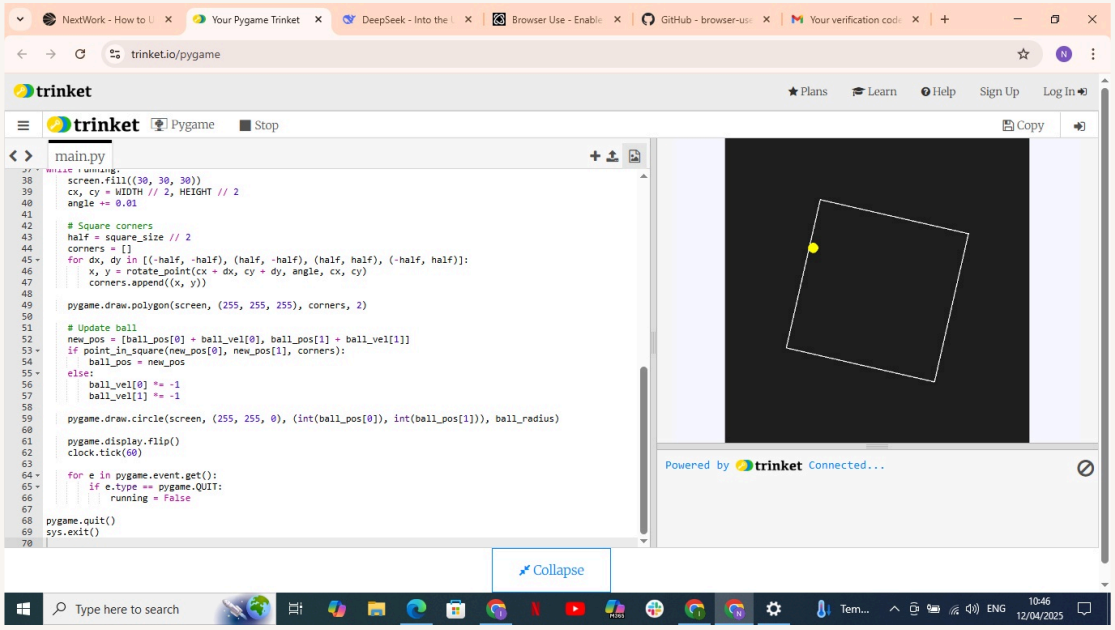

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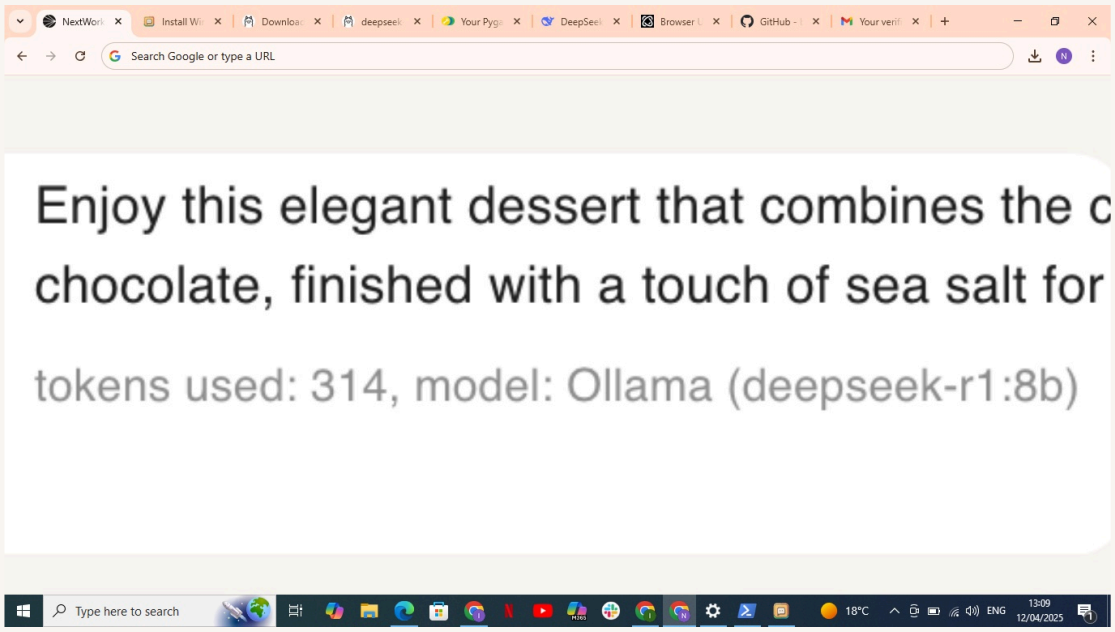
Token Efficiency

In a project extension, I'm also comparing DeepSeek with OpenAI in terms of token efficiency. I could access OpenAI's API by signing up for a free OpenAI account, generating an API key from the OpenAI dashboard, and using it within tools or scripts that support API integration. This let me send the same prompts to OpenAI's models and measure their token usage for a fair comparison with DeepSeek.

When I used a higher temperature, OpenAI's model response was more creative, playful, and unpredictable. It introduced unexpected ideas and phrased things in unique ways that felt less structured but more imaginative. This is likely because a high temperature increases randomness, encouraging the model to explore less obvious word choices and more diverse sentence structures, which can be useful for brainstorming or artistic tasks.

Token efficiency refers to how many tokens a model uses to understand and respond to a prompt. Fewer tokens mean lower cost and faster response. For the same request, DeepSeek used fewer tokens than OpenAI, making it more efficient in certain cases. For developers, this means they can save on API costs and process more queries with the same token limits, which is especially valuable in large-scale or budget-sensitive applications.


Search Google or type a URL
Enjoy this elegant dessert that combines the c
chocolate, finished with a touch of sea salt for
tokens used: 314, model: Ollama (deepseek-r1:8b)
Type here to search
18°C
ENG
13:09
12/04/2025