

Comparing AI Tools



Problem Statement

The project aims to analyze the search interest trends for three popular AI tools: ChatGPT, Gemini, and Microsoft Copilot. The goal is to understand the relative popularity of these tools, identify periods of growth and decline, and uncover potential patterns in search behavior.

Goals

- **Identify the Most Consistent Growth Tool:**
Determine which tool has shown the most consistent growth in search interest over the observed period.
- **Analyze ChatGPT's Trend:** Identify the month and year when ChatGPT experienced its largest decline in interest.
- **Explore Seasonality:** Analyze monthly search trends to identify the month with the highest average interest across all tools.

Dataset & Source

- **Dataset:** The dataset is a CSV file named **ai_tools_comparison.csv** containing time series data on the search interest for ChatGPT, Gemini, and Microsoft Copilot.
- **Source:** The data is likely sourced from Google Trends, which provides insights into search volume for specific keywords over time.
[\(https://trends.google.com/trends/explore?
q=chatgpt,gemini,%2F1tsqm45vd&hl=
en-US\)](https://trends.google.com/trends/explore?q=chatgpt,gemini,%2F1tsqm45vd&hl=en-US)

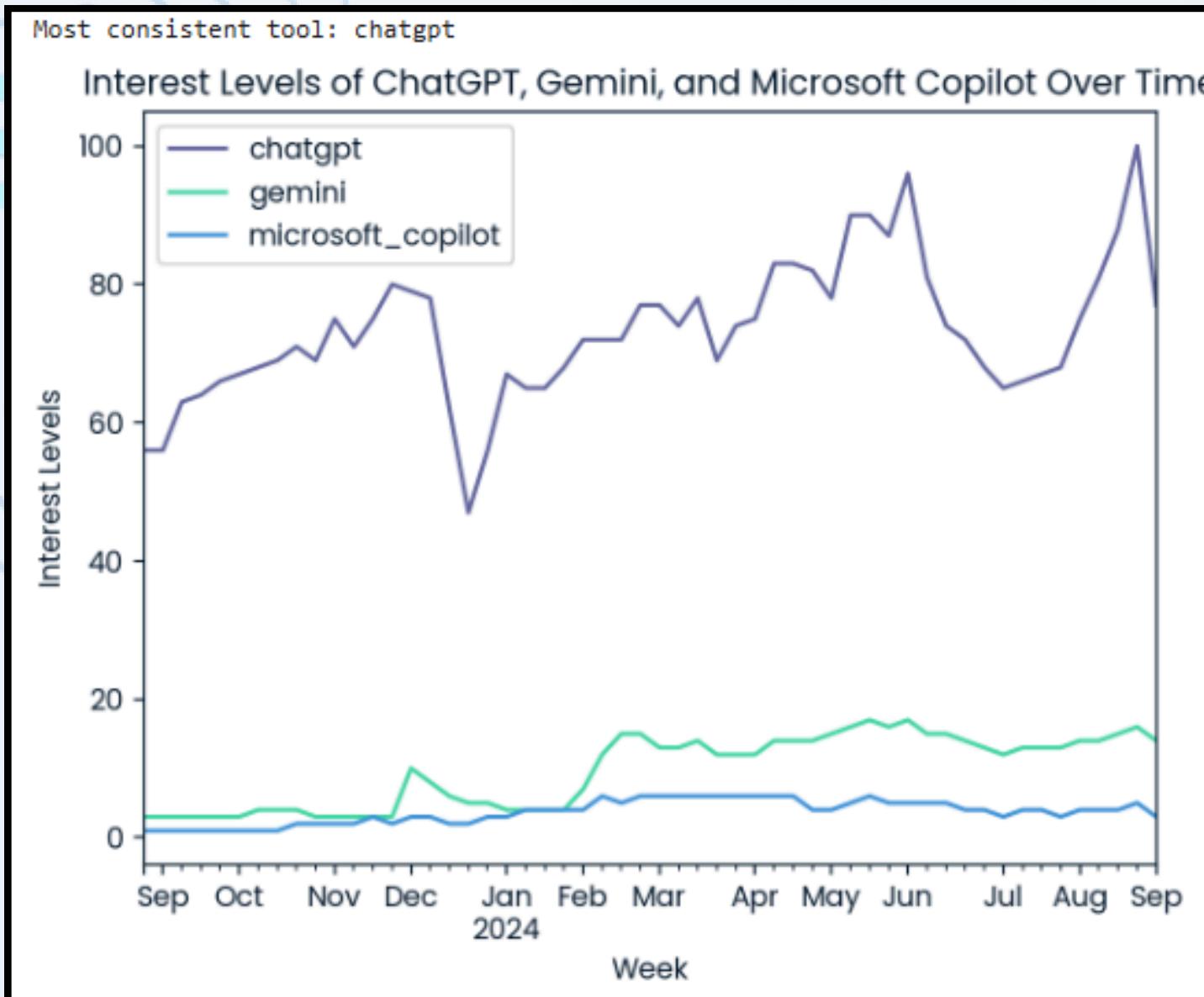
Outputs

- Which AI tool has shown the most consistent growth in interest over the observed period (the full dataset)?
- Around which month and year does ChatGPT experience its largest decline in interest?
- What month had the highest average interest across all tools?

Data Findings

- **Most Consistent Growth Tool:** The tool with the most consistent growth in search interest can be determined by analyzing the standard deviation of the growth rates.
- **ChatGPT's Decline:** The month and year of ChatGPT's largest decline in interest can be identified by analyzing the time series plot and finding the lowest point in the ChatGPT trend line.
- **Seasonal Trends:** Monthly averages can be calculated to identify seasonal patterns in search interest and the month with the highest average interest across all tools.

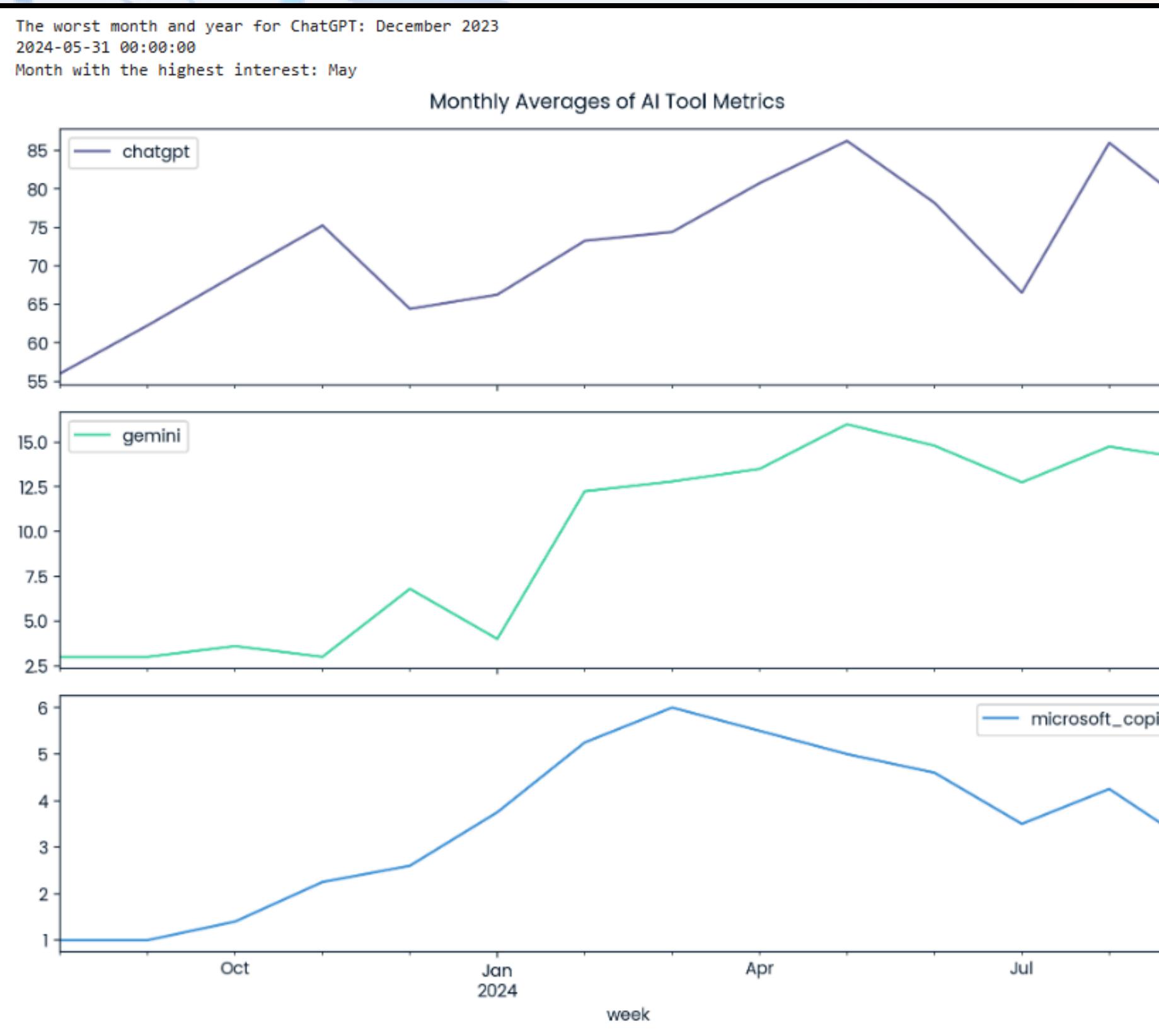
Which AI tool has shown the most consistent growth in interest over the observed period (the full dataset)?



The chart illustrates the relative interest levels of ChatGPT, Gemini, and Microsoft Copilot over a period of approximately one year. **It's apparent that ChatGPT has maintained a dominant position and most consistent tool throughout this timeframe.**

Key Observations

- ChatGPT's Peaks and Troughs:** There are instances where ChatGPT's interest level drops significantly. These could be tied to specific events or news related to the tool or its competitors.
- Gemini's Rising Popularity:** The upward trajectory of Gemini's interest level indicates potential growth and increasing user adoption.
- Microsoft Copilot's Steady Performance:** The consistent interest in Microsoft Copilot suggests a stable user base and consistent usage.



- **Around which month and year does ChatGPT experience its largest decline in interest?**

Looking at the ChatGPT line, we can see a clear dip around **December 2023**. This is the month where ChatGPT experienced its largest decline in interest.

- **What month had the highest average interest across all tools?**

To determine the month with the highest average interest across all tools, we need to examine the monthly averages for each tool. From the chart, it appears that **May 2024** had the highest average interest across all three tools.

Insights

- By analyzing search trends, we can gain valuable insights into the evolving landscape of AI tools and user preferences.
- Understanding the factors driving search interest can help businesses make informed decisions about product development, marketing strategies, and resource allocation.
- Identifying seasonal patterns can help optimize marketing efforts and content releases to maximize impact.