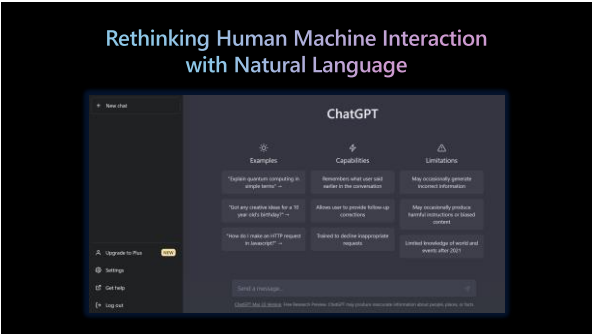
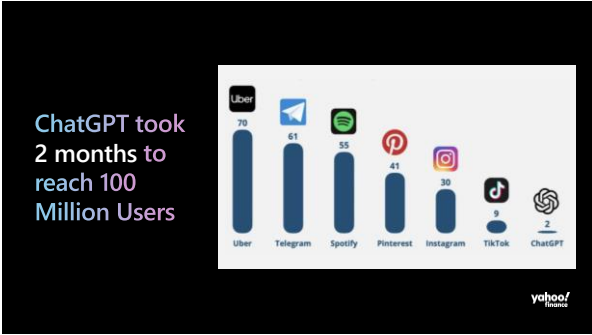




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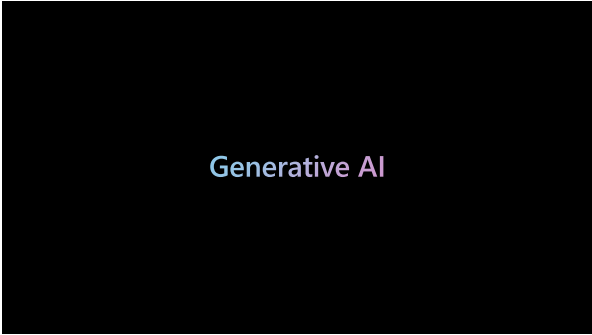
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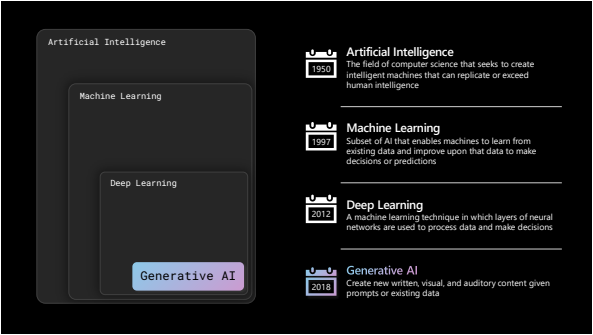
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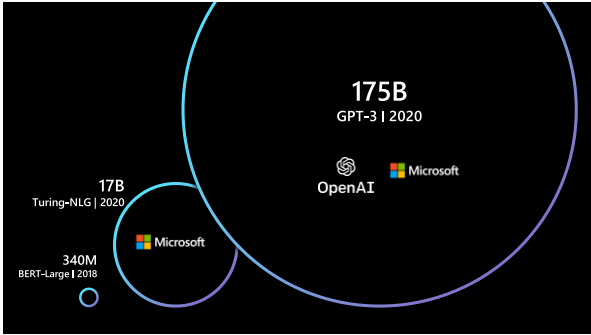
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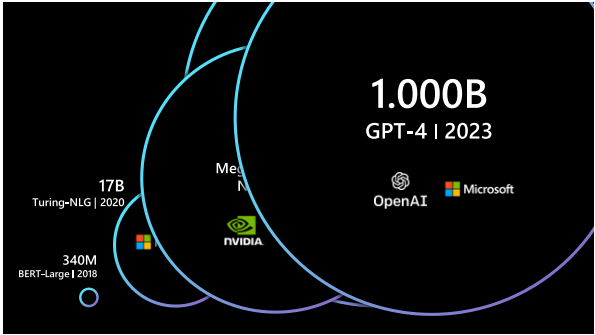
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Sparks of Artificial General Intelligence

- Interaction with humans
- Simple and advanced math
- Composing music
- Executing code
- Executing pseudocode
- Reasoning about code execution
- Image generation

Sparks of Artificial General Intelligence: Early experiments with GPT-4

Shantanu Bhattacharya, Armin Hertzberg, Adam P. Goucher, et al. OpenAI

Abstract: We introduce a new evaluation framework for assessing the capabilities of large language models (LLMs) in a wide range of tasks. The framework is designed to be a proxy for the ability of LLMs to interact with humans and perform a variety of tasks. We evaluate GPT-4 on a range of tasks, including simple and advanced math, composing music, executing code, executing pseudocode, reasoning about code execution, and image generation. We find that GPT-4 performs well on all of these tasks, and that its performance is comparable to that of human experts. This suggests that GPT-4 may have achieved a level of artificial general intelligence (AGI) that is comparable to that of human experts.

Contents

- 1 Introduction
- 2 The approach to testing GPT-4 on intelligence
- 3 Experimental results
- 4 Mathematical and interdisciplinary competence
- 5 Image generation
- 6 Code execution
- 7 Pseudocode execution
- 8 Reasoning about code execution
- 9 Image generation
- 10 Conclusion

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Key Concepts

Extract the mailing address from this email

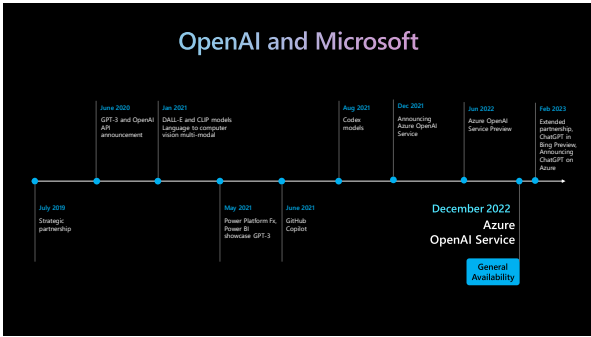
Hi John Doe,
It was great to meet up at Build earlier this week. I thought the AI platform talk was great and I really enjoyed it.
I appreciate the offer for the book. If you are OK, you can mail it to me at home, or 123 Microsoft Way, Bellevue WA 98004.
Regards,
Chris Heder

Prompt—Text input that provides some context to the engine on what is expecting.

Completion—Output that GPT-3 generates based on the prompt.

Token—partial or full words processed and produced by the GPT models

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OpenAI Microsoft Generative AI

GPT-4

Prompt: Write a tagline for an ice cream shop.

Response: No shiny up daisies with every scoop!

Codex

Prompt: Table customers, columns = [CustomerId, FirstName, LastName, Company, Address, City, State, Country, PostalCode]

Response: Create a SQL query for all customers in Texas named Jane

SELECT FROM customer WHERE State = 'TX' AND FirstName = 'Jane'

DALL-E2

Prompt: A white Siamese cat

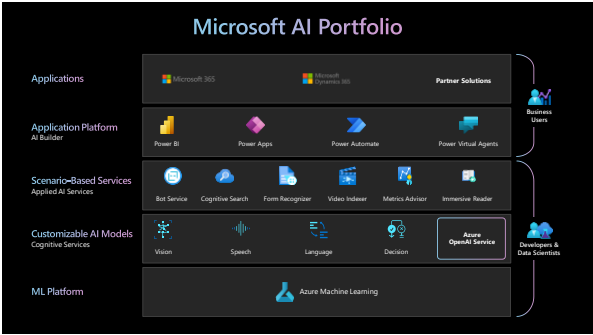
Response: [Image of a white Siamese cat]

ChatGPT

Prompt: What is the meaning of life?

Response: The meaning of life is a philosophical question that has been asked for centuries. It is a question that has no definitive answer, but it is a question that is worth asking. The meaning of life is what you make of it.

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Azure OpenAI Service

- Deployed within your **Azure subscription**, secured by you, accessed **only by you**, and tied to your datasets and applications
- Large, pretrained AI models to unlock new scenarios
- Custom AI models fine-tuned with your data and hyperparameters
- Built-in **responsible AI** to detect and mitigate harmful use
- Enterprise-grade security with role-based access control (RBAC) and private networks

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Azure OpenAI Top Capabilities and Use Cases

Content generation	Summarization	Code generation	Semantic search
Call center analytics: automatically generate responses to customer inquiries. Generate personalized UI for your website.	Call center analytics: summary of customer support conversation logs. Subject matter expert document: summarization (e.g. financial reporting, analyst articles). Social media trends summarization.	Convert natural language to SQL (or vice versa) for telemetry data. Convert natural language to query proprietary data models. Code documentation.	Search reviews for a specific product/service. Information discovery and knowledge mining.

Examples of multiple model use cases

- End to end call center analytics: classification, sentiment, entity extraction, summarization and email generation
- Customer 360: hyper-personalization using timely summarization of customer queries & trends, search, and content generation
- Business process automation: search through structured & unstructured documentation, generate code to query data models, content generation

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Bing & GPT-4
Your Copilot for the Web

Bing Edge

Search Answer Chat Create

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The Era of Copilots

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Work shouldn't be this hard

8.8 Hours per week on email	7.5 Hours per week in meetings	3X More Teams meetings & calls a week since Feb 2020	#1 Productivity disrupter is inefficient meetings
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Source: 2023 Work Trend Index

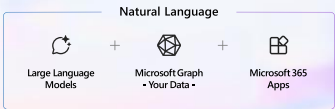
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A New AI-Employee Alliance



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Microsoft 365 Copilot



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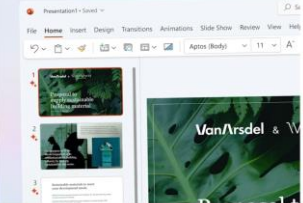
Microsoft 365 Copilot

Embedded across Microsoft 365 apps



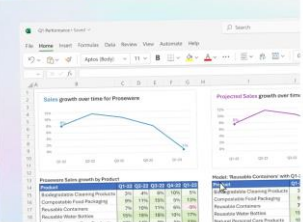
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Copilot in PowerPoint



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Copilot in Excel



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Thank you!

Manuel Dias
National Technology Officer (NTO)
Microsoft Portugal

manuel.dias@microsoft.com
www.linkedin.com/in/mdias

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