



MICROSOFT AI DAY

Toronto, Canada

September 1, 2023

Learn How to Harness
the Power of AI to
Enhance Enterprise
Search within the Ever-
Evolving Microsoft Suite

#MicrosoftAIDay



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Speaker Evaluations

Please complete an evaluation for each session you are attending. This will help us in providing our speakers with valuable feedback. You will also increase your chances of winning a raffle prize



Shout Outs

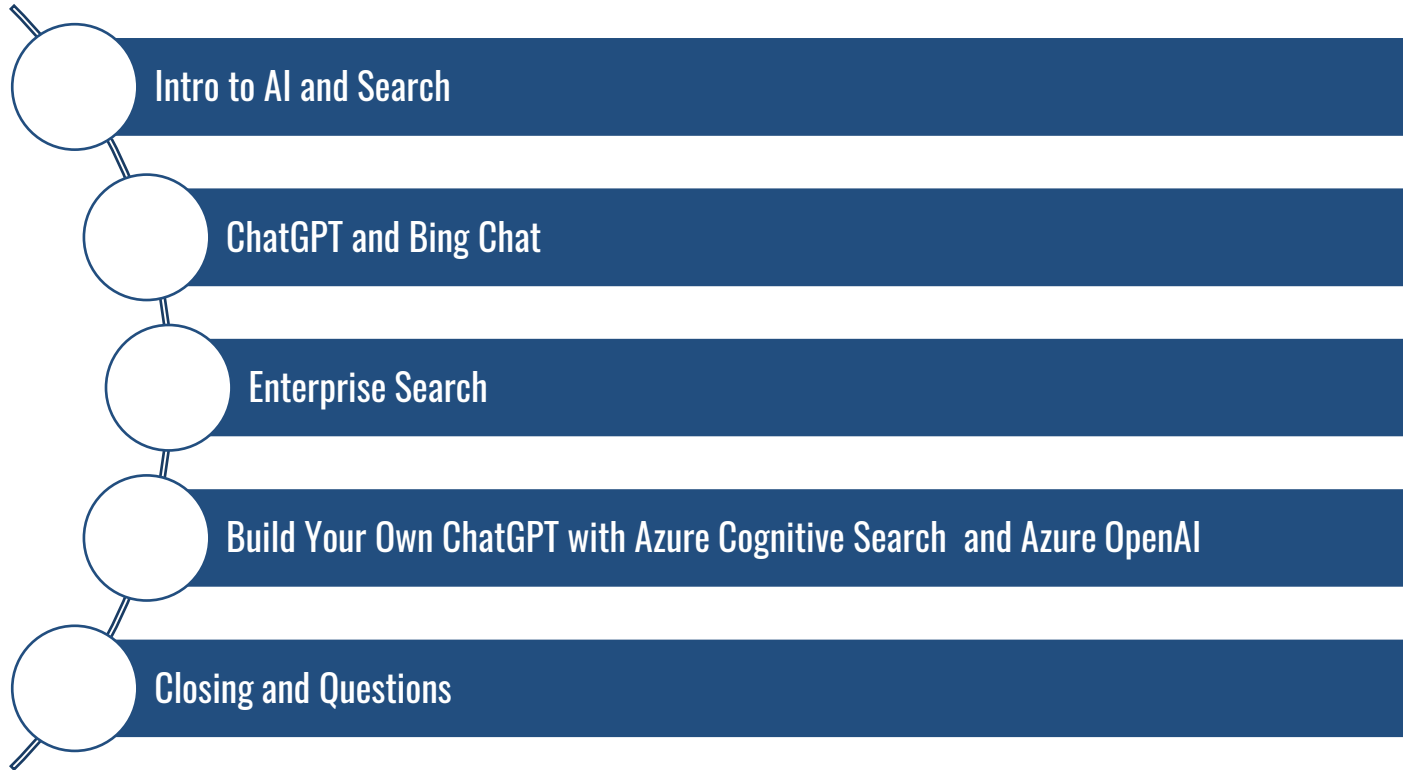
Share your experience with your peers through social media. Make sure to tag one of the following to enter a raffle as a social media trailblazer

LinkedIn: @MicrosoftAIDay, #MicrosoftAIDay

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Agenda



Attendee Poll

1. Please rate your familiarity with each of the following:

	Don't Know	Familiar	Expert
Google	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ChatGPT	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Microsoft Search	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bing Enterprise	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bing Chat Enterprise	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Azure Cognitive Search	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Azure Open AI	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Submit



ChatGPT

- Chat Generative Pre-trained Transformer
- Large language model-based chatbot
 - Developed by OpenAI
 - Launched on November 30, 2022
 - Microsoft is a major shareholder
- Within two months (Jan 2023) had gained 100M users
 - Fastest-growing consumer software application in history
 - \$29B valuation
- Limited knowledge of events after September 2021
- <https://chat.openai.com/>

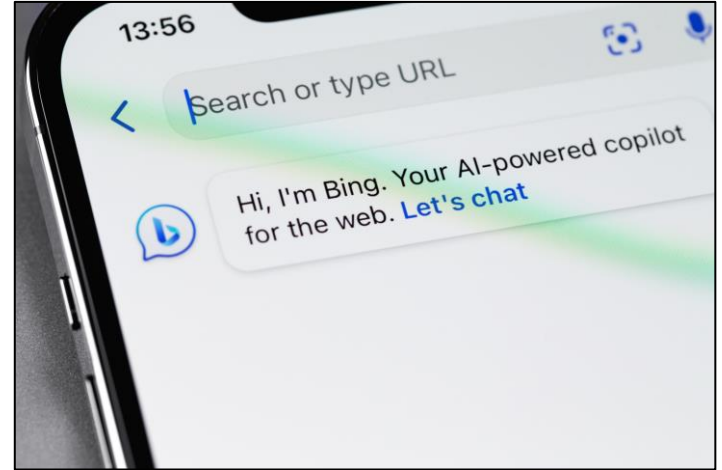


ChatGPT Demo



Bing Chat Enterprise

- AI-powered chat with commercial data protection
 - Your chats are always private, and never become part of the public training model
 - Not visible to Microsoft
- Microsoft 365 E3, E5, Business Standard, Business Premium, or A3 or A5 for faculty
- bing.com/chat
- Microsoft Edge for Business sidebar



Bing Chat Enterprise Demo



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Azure OpenAI



- [Azure OpenAI Service – Large Language Models for Generative AI \(microsoft.com\)](https://microsoft.com)
- Azure OpenAI service features offers REST API to GPT-4 and GPT-35
- Both language models co-develop their APIs, guaranteeing compatibility and easy transitions
- Azure OpenAI ensures the same security standards as Microsoft Azure
- Azure OpenAI offers private networking, regional availability, and responsible AI content filtering

Pricing

- [Azure OpenAI Service - Pricing | Microsoft Azure](#)
- Priced and scaled by tokens and context
 - 1 token \sim 4 chars in English
 - 1 token \sim $\frac{3}{4}$ words
 - 100 tokens \sim 75 words

Models	Context	Prompt (Per 1,000 tokens)	Completion (Per 1,000 tokens)
GPT-3.5-Turbo	4K	\$0.0021	\$0.0028
GPT-3.5-Turbo	16K	\$0.005	\$0.006
GPT-4	8K	\$0.041	\$0.082
GPT-4	32K	\$0.082	\$0.164

[Calculating Azure OpenAI Service Usage Costs: A Comprehensive Guide | by Oleksandr Krakovetskyi | The DevRain Tech Blog | Jul, 2023 | Medium](#)



Bing Chat Enterprise vs. Azure OpenAI

Bing Chat Enterprise/M365 Copilot

Purpose & Needs:

- Ideal for orgs with general chat requirements over enterprise documents

Integration & Configuration

- Seamlessly integrates with Microsoft 365; straightforward user experience

Quality of Responses:

- Generalized, broad answers

Azure OpenAI

Purpose & Needs:

- Suited for fine-tuning and customizing chat responses based on specific document sets
- Allows integration into enterprise apps

Integration & Configuration:

- More complex setup involving Azure Cognitive Search indexer, POST/GET request configurations, and UI/CLI limitations

Quality of Responses:

- Specialized contextually accurate answers with ability to link back to source documents



Search



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Transitioning from Keyword to Semantic and Vector Search

Keyword Search: Direct matching of query terms to terms in documents or databases.

Use Cases: Early search engines, basic database queries.

Advantages: Simple, quick, easy to implement.

Limitations:

- Requires exact term matches
- Can yield irrelevant results if terms are out of context
- Can miss relevant documents if they don't use the exact terms



Semantic Search

Understands the meaning and intent behind user queries, rather than just matching keywords.

Use Cases: modern search engines, CMS, e-commerce recommendations.

Advantages:

- Relevant results
- Can answer queries instead of just returning files
- User-friendly with natural language queries

Limitations:

- Requires more sophisticated algorithms
- Potential for ambiguity in interpretation



Vector Search

Finds items in a dataset based on their similarity in meaning or context, rather than exact keyword matches.

Use Cases: advanced data retrieval systems, document clustering, and topic modelling.

Advantages:

- Relevant results
- Understands context, relationships between words
- Supports languages and terms with sparse data

Limitations:

- Requires substantial computational power
- Vector models need training and refining



Decreasing attention span



59%

Managers missing information daily

20%

Time spent looking for the right information

Accelerating content scale



44 zettabytes of data (2020)

>76% unstructured data (2020)

104 quadrillion average Office docs (2020)

169 billion standard content DBs (2020)

1 zettabyte = 1B terabytes

The world is **investing** in intelligent tech



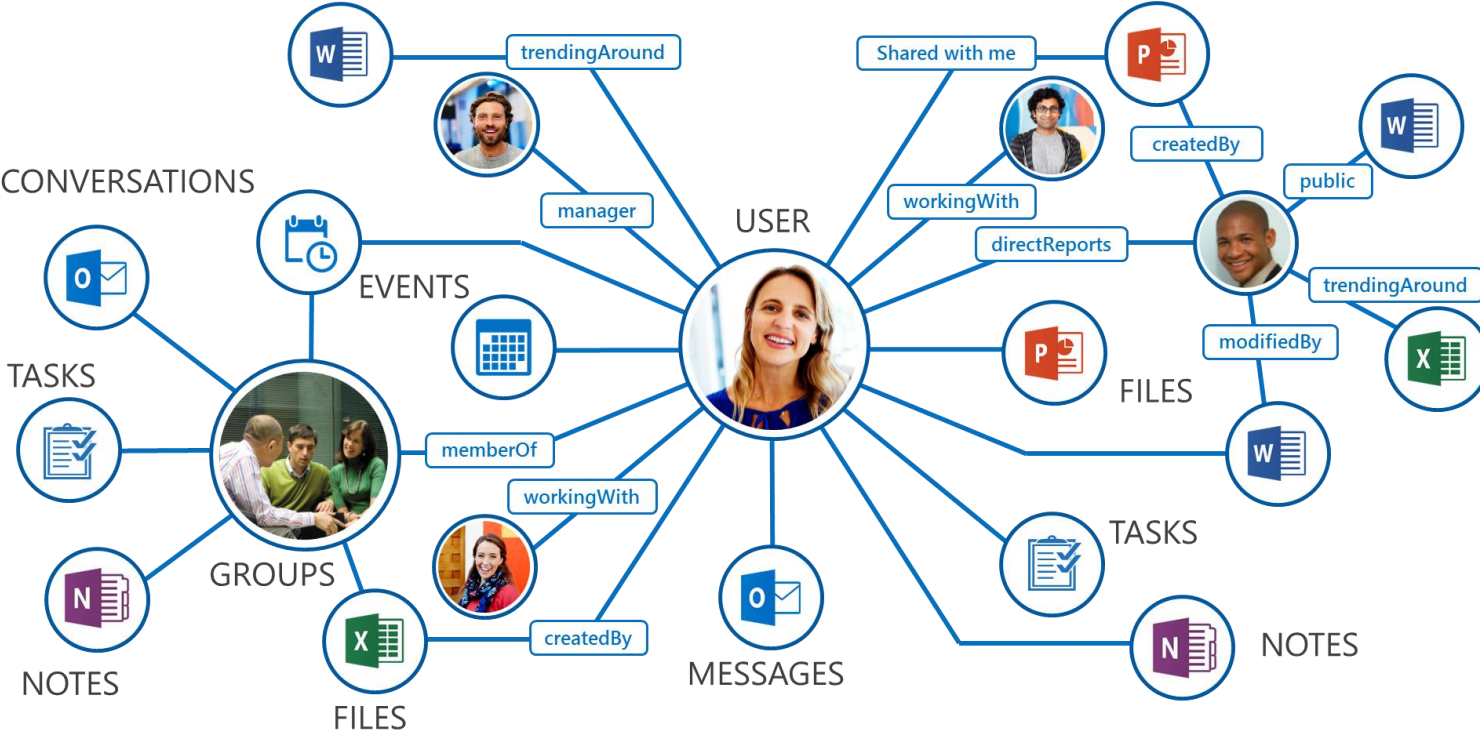
\$5B Machine Learning (2016)

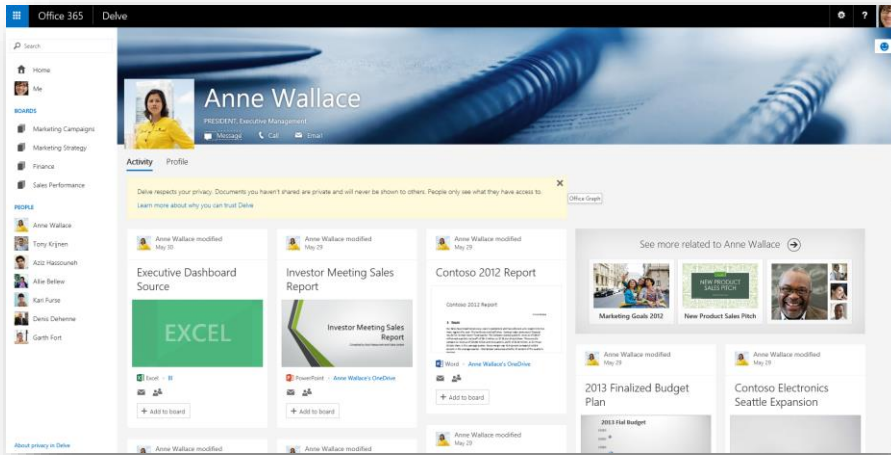
\$3B Computer Vision (2016)

\$1B Natural Language (2016)

VC investment in AI companies in 2016

Office Graph





- Powered by the Office Graph
 - Collects signals of activities people are doing
- Drives information discovery through your connections to other people
- Machine intelligence
- Auto builds profile pages

Microsoft Search

in Bing
in Office.com
in SharePoint
in Edge
in Windows

in PowerPoint
in Outlook
in Excel
in Yammer
in Word
in Sway
in Teams
in OneNote

**One capability.
Every search experience.**

Microsoft Graph + Bing technology



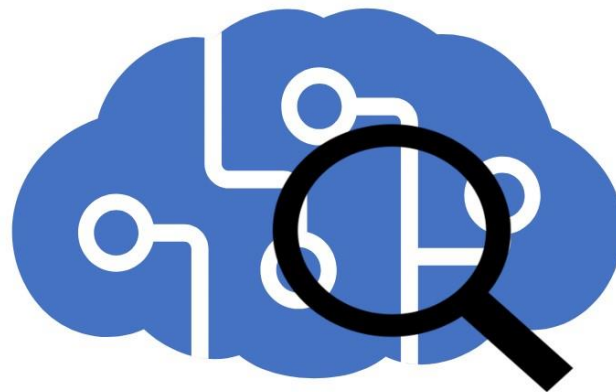
Microsoft Search Demo



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Azure Cognitive Search

- Cloud service providing a full-text search engine, offering semantic and vector search capabilities
- Intended for developers needing application-based search experiences
- Benefits from vast data sources and AI-enhanced indexing



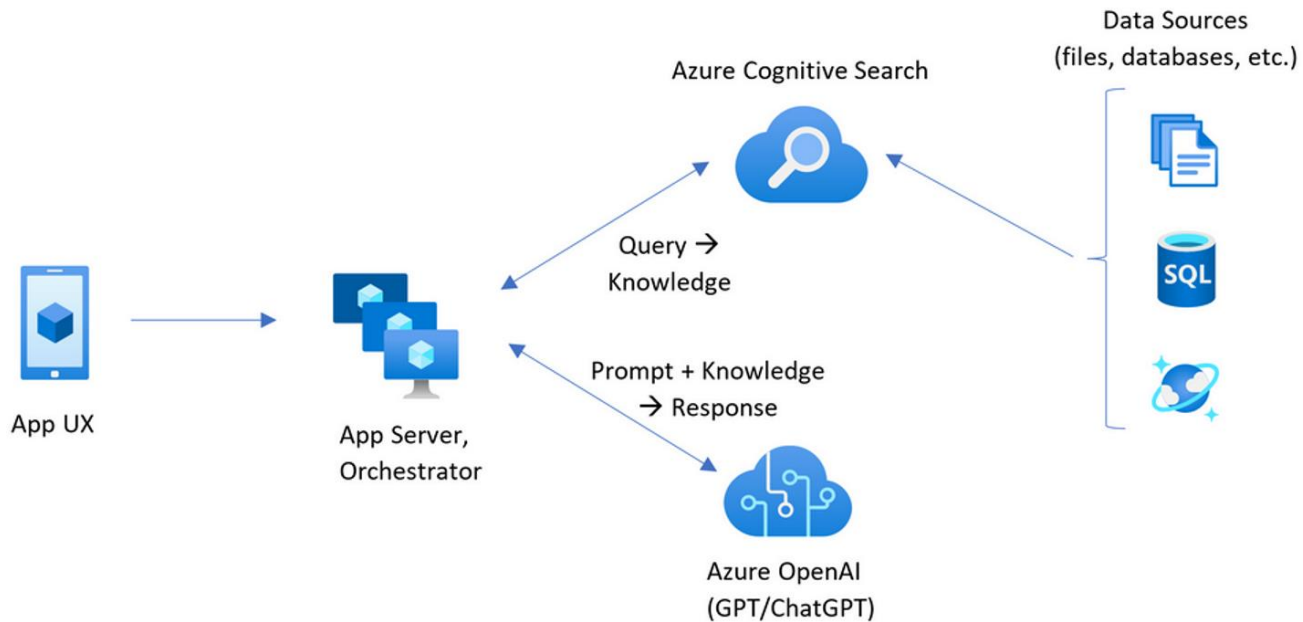
Azure Cognitive Search Demo

<https://wwwdev.extranetusermanager.com/search-pages>
<https://wwwdev.extranetusermanager.com/search-pdf>



Azure Cognitive Search and OpenAI Integration

Create a personalized ChatGPT app that uses your own data as the basis of its responses



Azure Open AI and Cognitive Search Demo

Sample Dataset - <https://app-backend-4gxb2mbgbsi4a.azurewebsites.net/>
EUM Dataset - <https://app-backend-dbjzkdwy134.azurewebsites.net/>



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