Microsoft

Leading the Era of AI with AI Copilot

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HPC/AI 解決方案 副總經理
微軟亞洲區

The world is changing.

Industries are transforming rapidly

The drivers for economic growth are evolving

The world is more connected than ever

The new age of AI

AI will set the stage for
a new era of innovation.

AI is everywhere

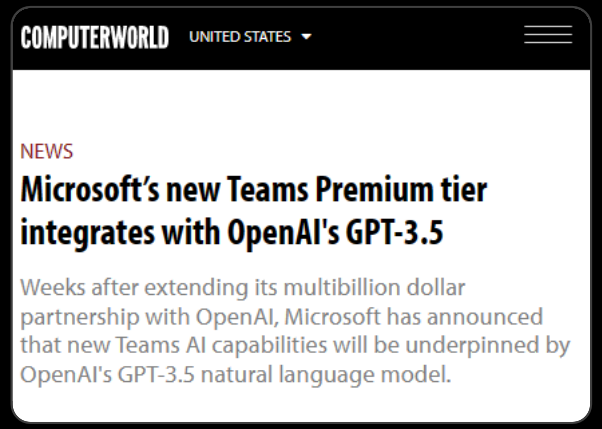
AI private investments have doubled in one year1

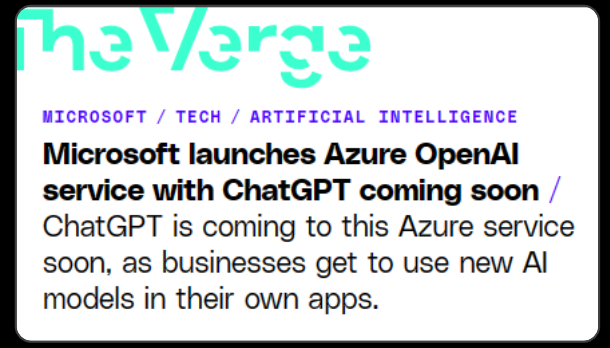
Research on AI fairness and transparency has increased fivefold since 2014

50% of organizations have adopted AI in at least one business area

1. Artificial Intelligence Index Report 2022, Stanford University HAC 2022
2. S Leadership IT Investment Survey 2022 (CSS Insights); McKinsey; EY March Report
3. The state of AI in 2022--and a half decade in review | McKinsey

The AI technology is here





Do More With AI

Top 3 common adopted AI use cases and benefits

1 Intelligent document automation

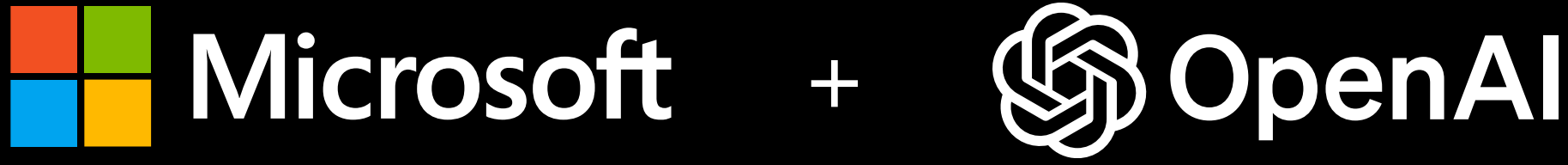
Automate processes and improve operational efficiency

2 Sales and Demand Forecasting / Inventory Management

Accelerate time-to-market

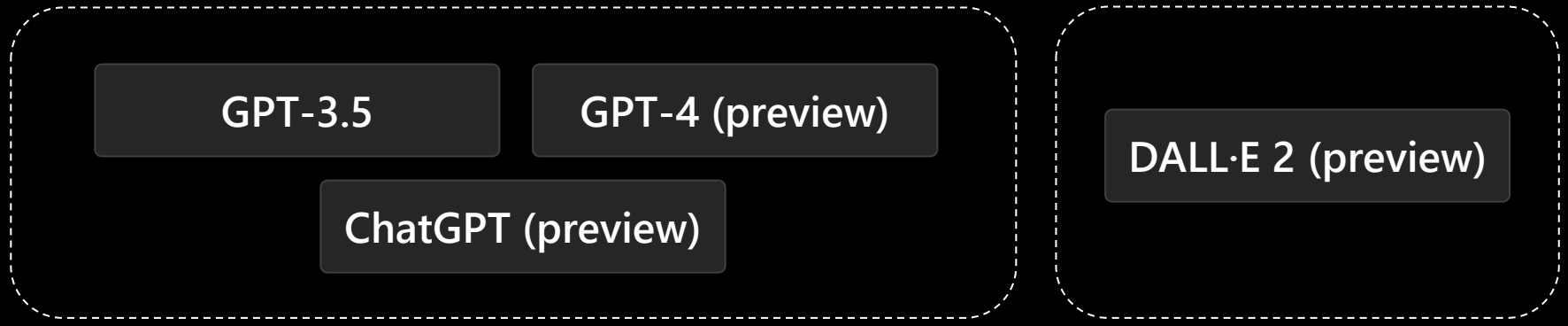
3 Hyper-personalization for up-sell and cross-sell

Build digital trust and improve user experiences


Microsoft
+
OpenAI

Azure OpenAI Service

Large pretrained foundation AI models
customizable for your use



Generative Text Models, with varying capabilities and uses

Generative Image Model

Azure OpenAI Service

Content creation by API

Prompt

Write a tagline for an ice cream shop.

Response

We serve up smiles with every scoop!

Prompt

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

Create a SQL query for all customers in Texas named Jane
query =

Response

```
SELECT *
FROM customers
WHERE State = 'TX' AND
FirstName = 'Jane'
```

Prompt

A ball of fire with vibrant colors to show the speed of innovation at our media and entertainment company

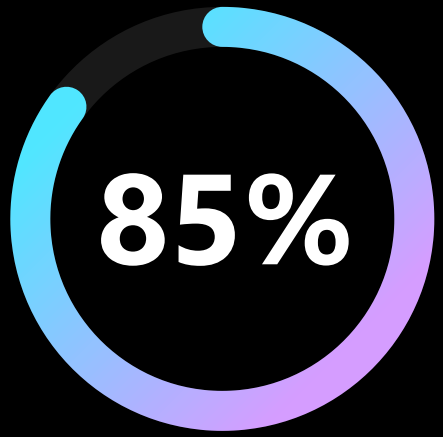
Response

Microsoft

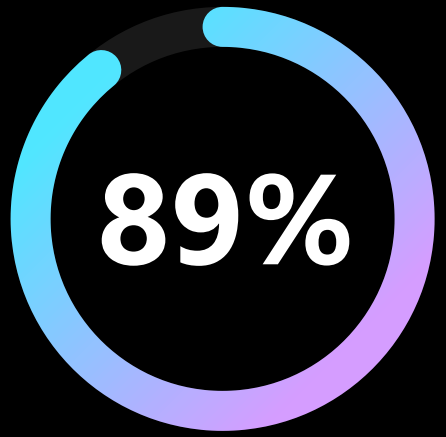
NUWA | Infinity

	Text to image	Image to video
A cloudy morning on the beach with the tide coming in		
Mountains with clouds		

Employees demand a new digital employee experience

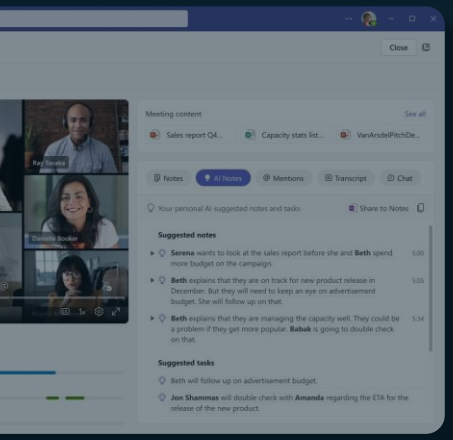


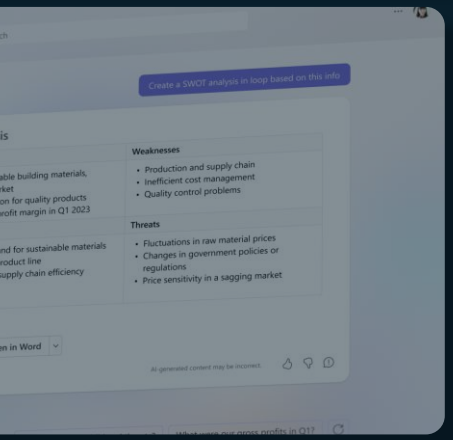
Want digital tools that help them **be more agile**, to **automate daily tasks**, and **make information more accessible**.

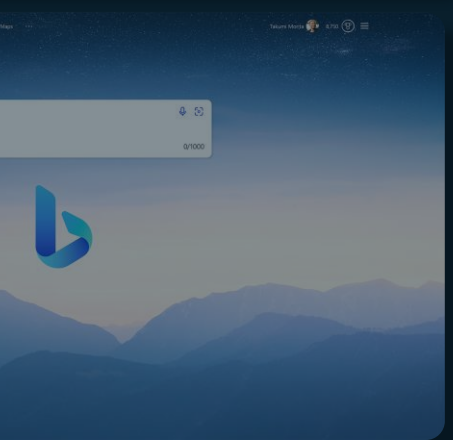


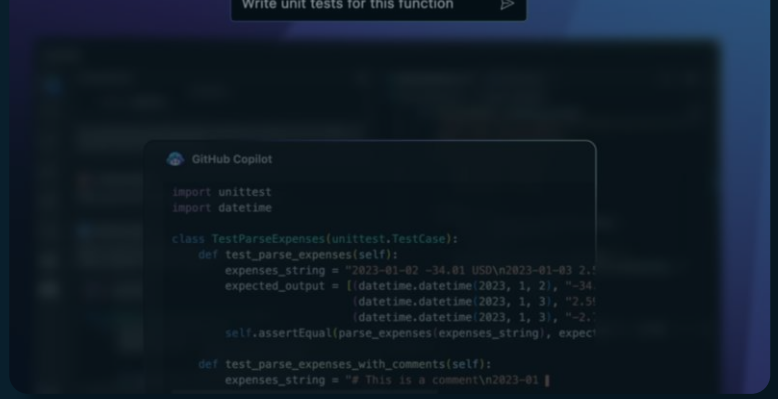
Who do have access to automation and AI-powered tools **feel more fulfilled** because they can spend time on work that truly matters.

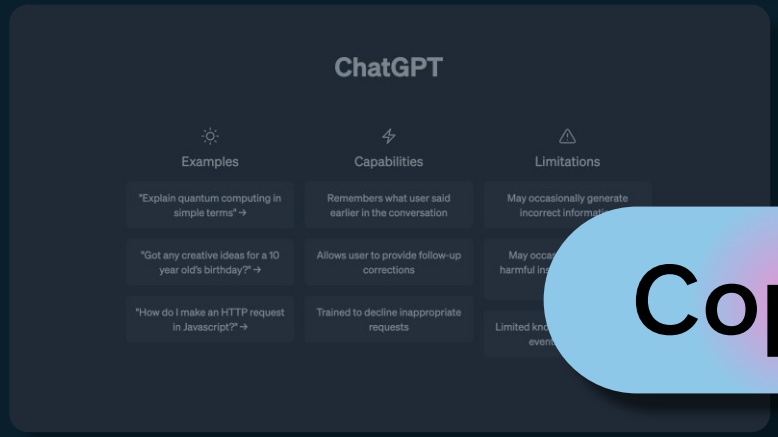
2023 Microsoft Business Trends Survey
According to 4,500 business decision makers (BDMs) in the United States, the United Kingdom, and Japan

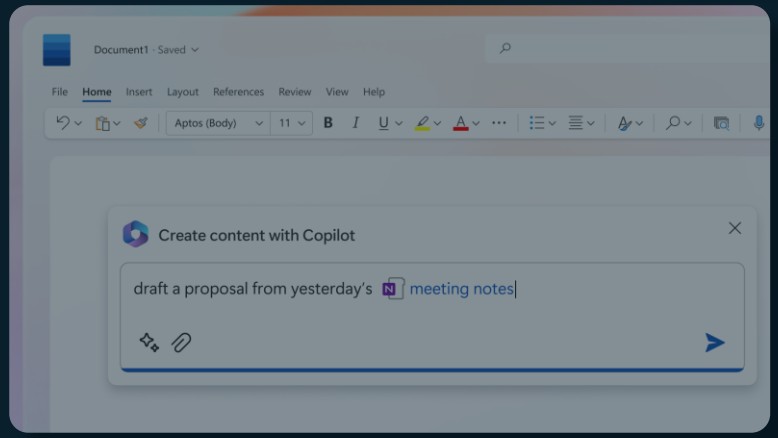

Close
Meeting content
Notes
AI Notes
Mentions
Transcript
Chat
Share to Notes
Suggested notes
Suggested tasks

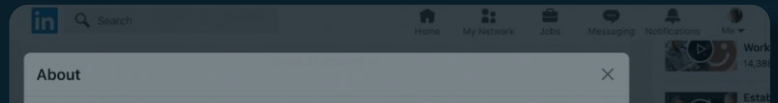

Create a SWOT analysis in loop based on this info
Weaknesses
Threats

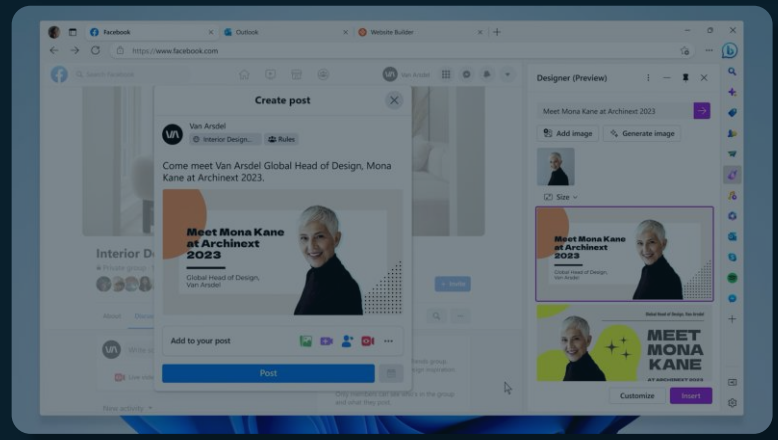


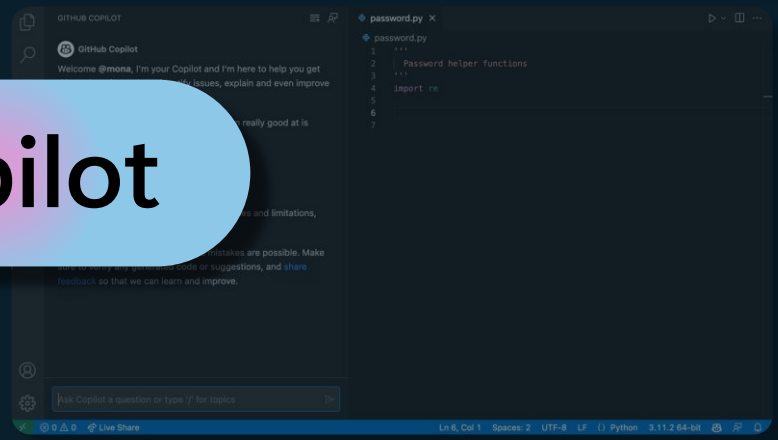

Write unit tests for this function
GitHub Copilot
import unittest
import datetime
class TestParseExpenses(unittest.TestCase):
def test_parse_expenses(self):
def test_parse_expenses_with_comments(self):


ChatGPT
Examples
Capabilities
Limitations
"Explain quantum computing in simple terms" →
"Got any creative ideas for a 10 year old's birthday?" →
"How do I make an HTTP request in Javascript?" →
Remembers what user said earlier in the conversation
Allows user to provide follow-up corrections
Trained to decline inappropriate requests

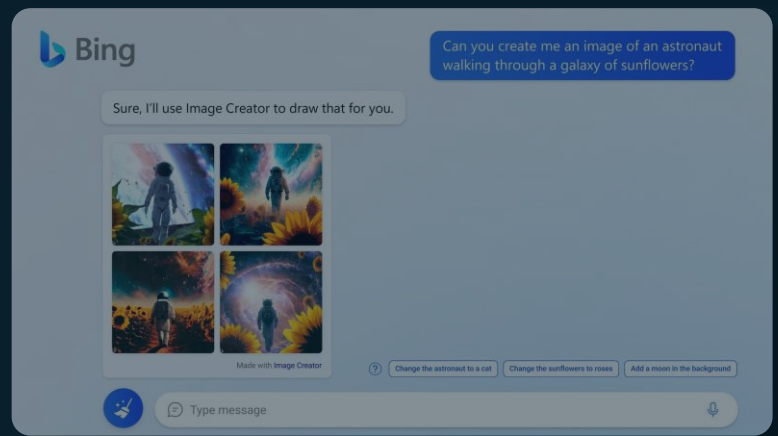

Document1 · Saved
File
Home
Insert
Layout
References
Review
View
Help
Create content with Copilot
draft a proposal from yesterday's meeting notes

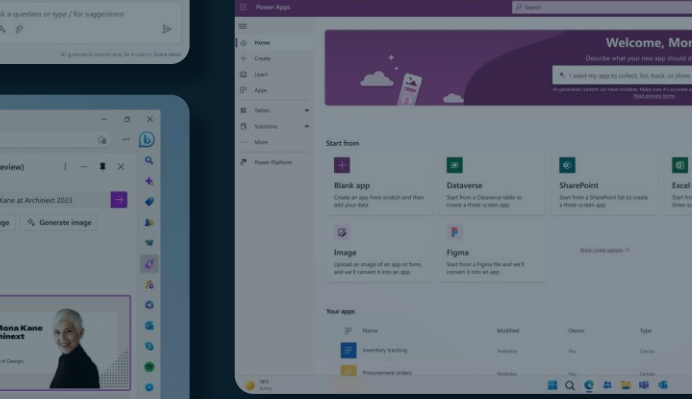

About

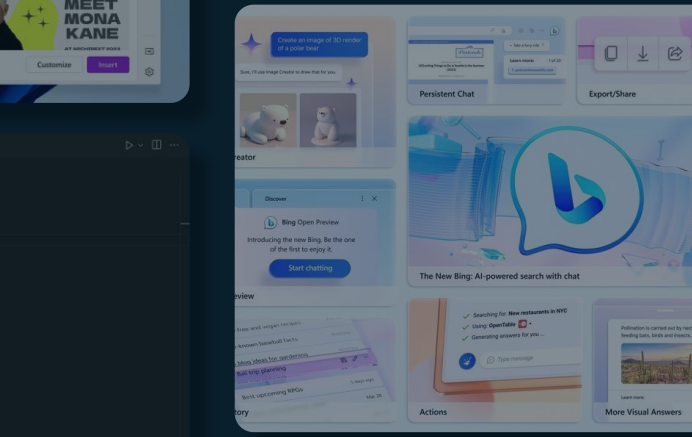

Create post
Come meet Van Arsdel Global Head of Design, Mona Kane at Archinext 2023.
Meet Mona Kane at Archinext 2023
Add to your post
Post
Designer (Preview)
MEET MONA KANE

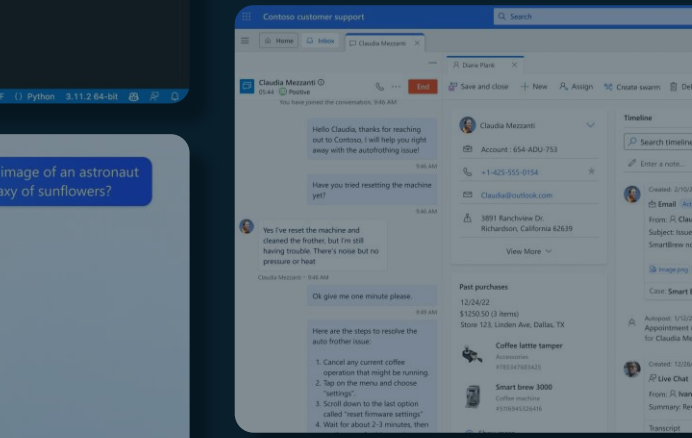

GITHUB COPILOT
GitHub Copilot
password.py
Password helper functions
import re

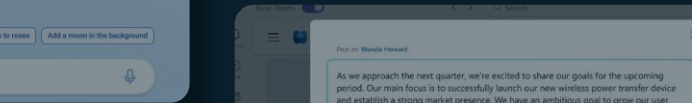
Copilot


Bing
Can you create me an image of an astronaut walking through a galaxy of sunflowers?
Sure, I'll use Image Creator to draw that for you.
Type message


Welcome, Mon
Start from
Blank app
Dataverse
SharePoint
Image
Figma
Your apps


Persistent Chat
Export/Share
The New Bing: AI-powered search with chat
Actions
More Visual Answers


Contoso customer support



Era of the AI Copilot

The role of technology

From	To
Tools	AI assistant
Data input	Data output
Follows commands	Provides recommendations, with human in the loop
Uses specialized language	Uses natural language

The opportunity is yours to

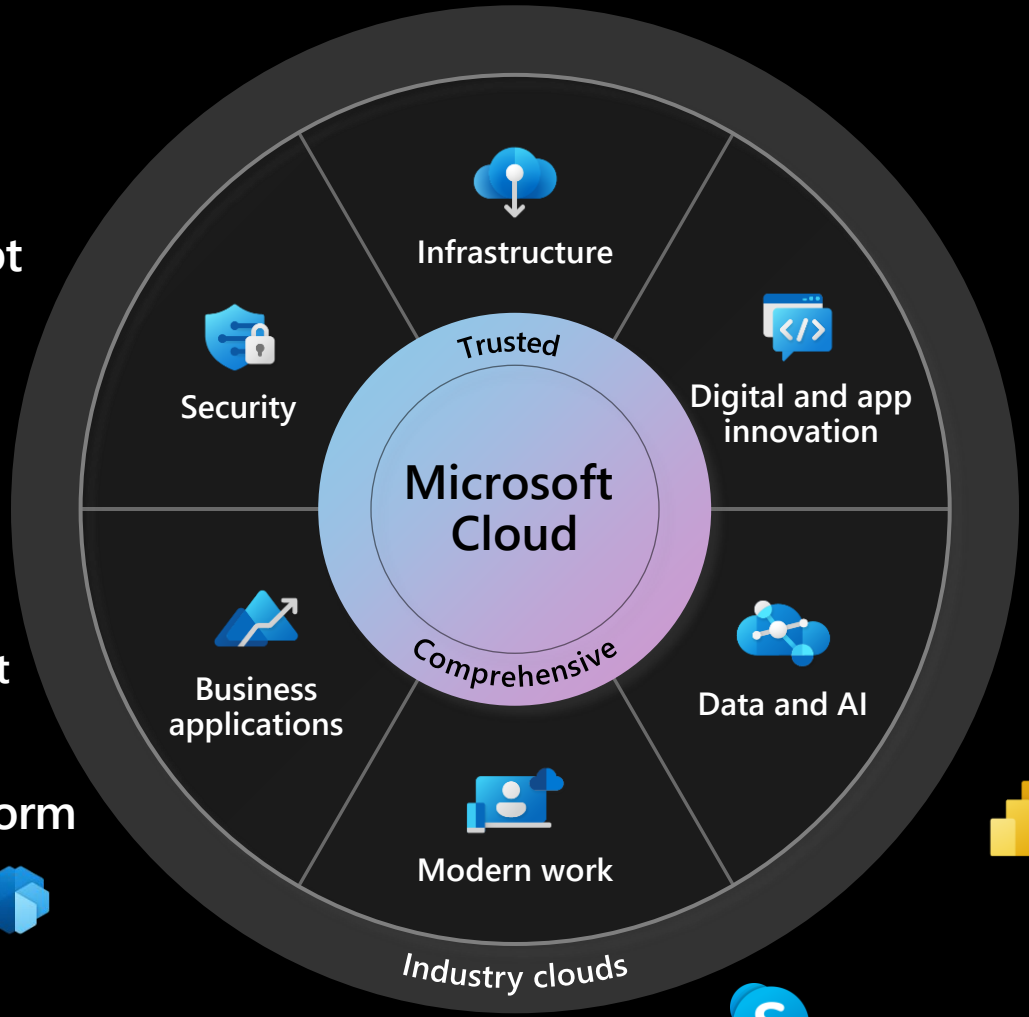
lead the AI transformation

Innovation powered by OpenAI models

OpenAI

Microsoft Security Copilot

GitHub Copilot



Microsoft Dynamics 365 Copilot

Azure OpenAI Service

NUANCE

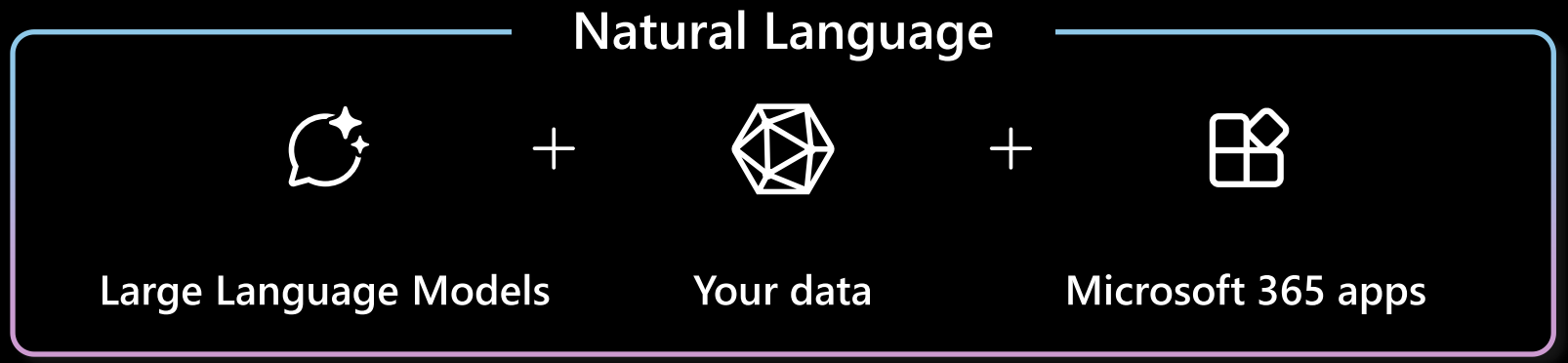
Power Platform

Power BI

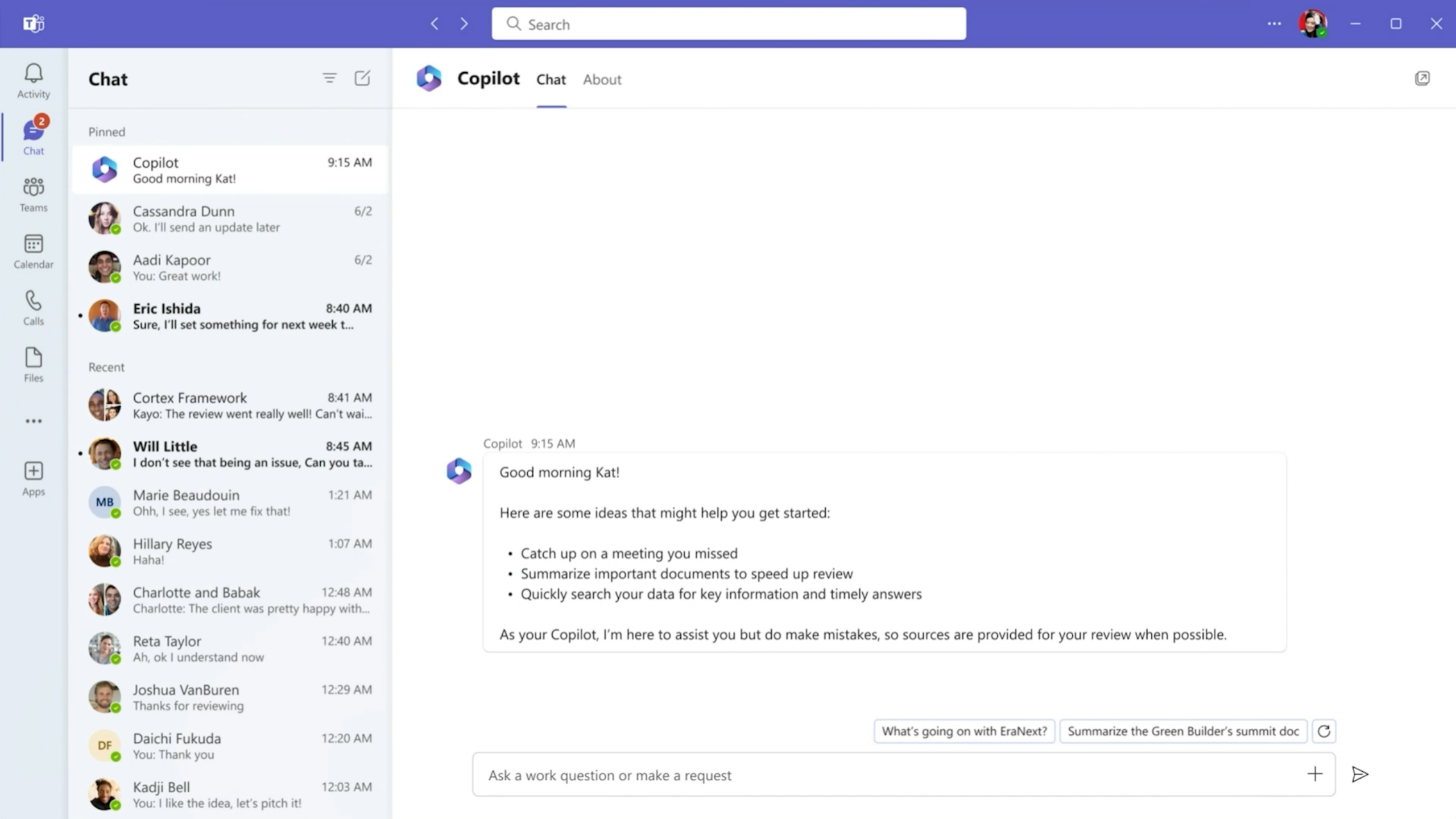
Microsoft 365 Copilot

Windows 11

Microsoft 365 Copilot

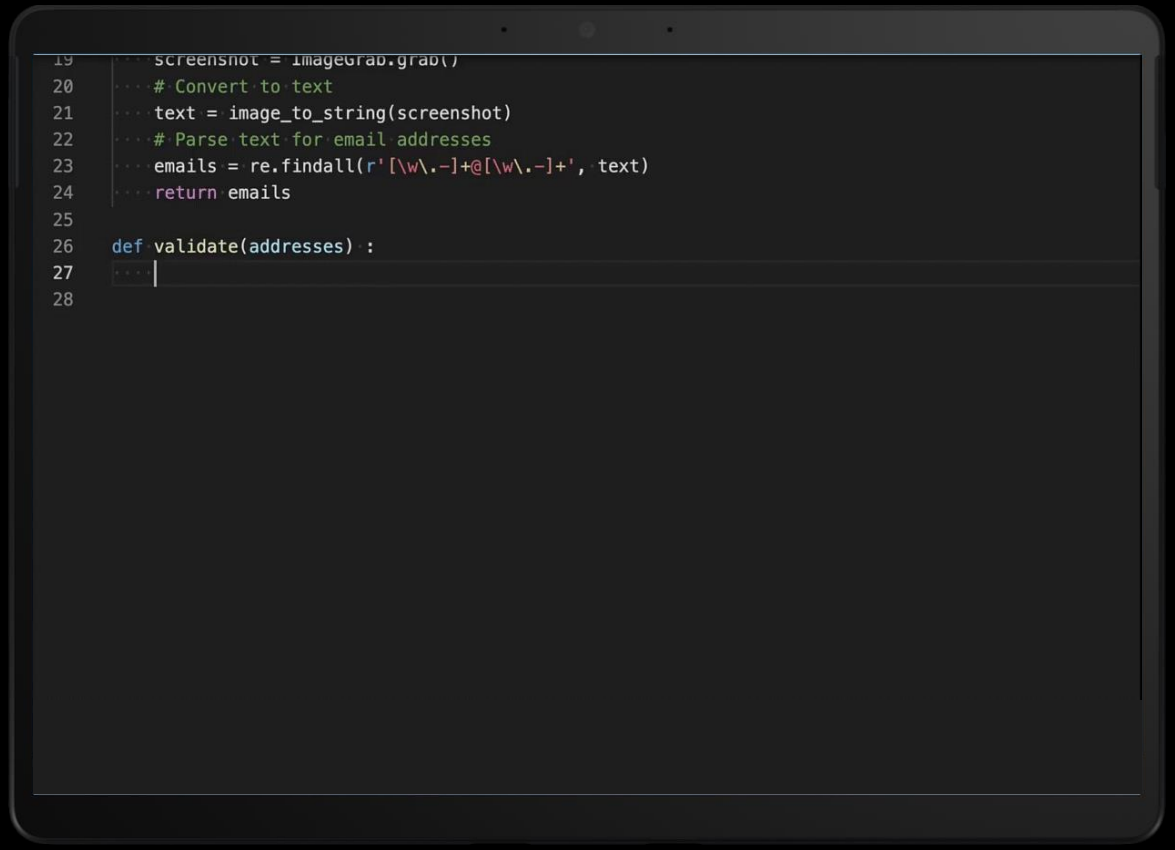


Business Chat brings together data from documents, presentations, email, calendar, notes, and contacts – all using natural language


Search
Activity
Chat
Teams
Calendar
Calls
Files
Apps
Chat
Pinned
Copilot 9:15 AM
Good morning Kat!
Cassandra Dunn 6/2
Ok. I'll send an update later
Aadi Kapoor 6/2
You: Great work!
Eric Ishida 8:40 AM
Sure, I'll set something for next week t...
Recent
Cortex Framework 8:41 AM
Kayo: The review went really well! Can't wai...
Will Little 8:45 AM
I don't see that being an issue, Can you ta...
Marie Beaudouin 1:21 AM
Ohh, I see, yes let me fix that!
Hillary Reyes 1:07 AM
Haha!
Charlotte and Babak 12:48 AM
Charlotte: The client was pretty happy with...
Reta Taylor 12:40 AM
Ah, ok I understand now
Joshua VanBuren 12:29 AM
Thanks for reviewing
Daichi Fukuda 12:20 AM
You: Thank you
Kadji Bell 12:03 AM
You: I like the idea, let's pitch it!
Copilot Chat About
Copilot 9:15 AM
Good morning Kat!
Here are some ideas that might help you get started:
• Catch up on a meeting you missed
• Summarize important documents to speed up review
• Quickly search your data for key information and timely answers
As your Copilot, I'm here to assist you but do make mistakes, so sources are provided for your review when possible.
What's going on with EraNext?
Summarize the Green Builder's summit doc
Ask a work question or make a request

GitHub Copilot

Your AI pair programmer



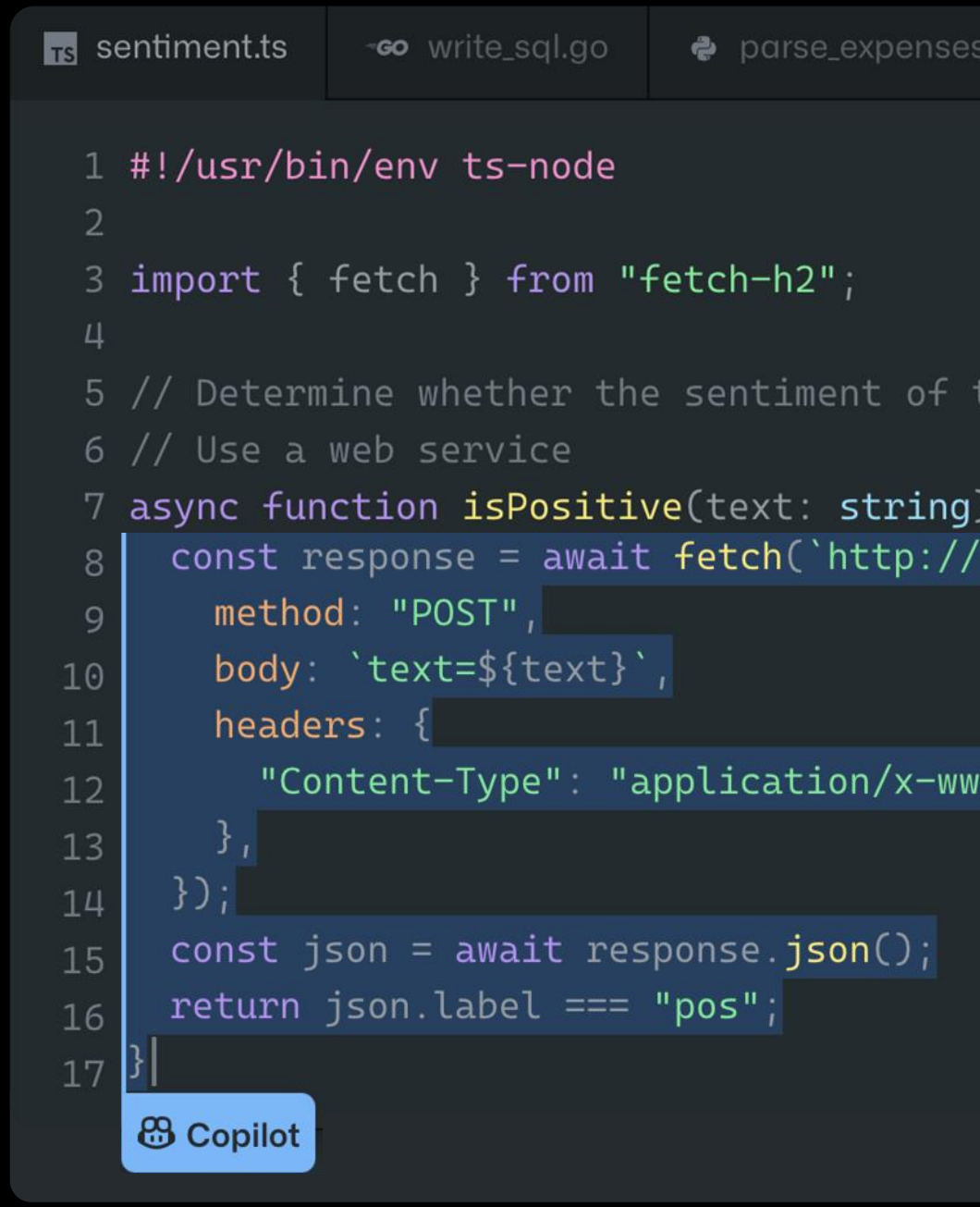
Business impact from Copilot

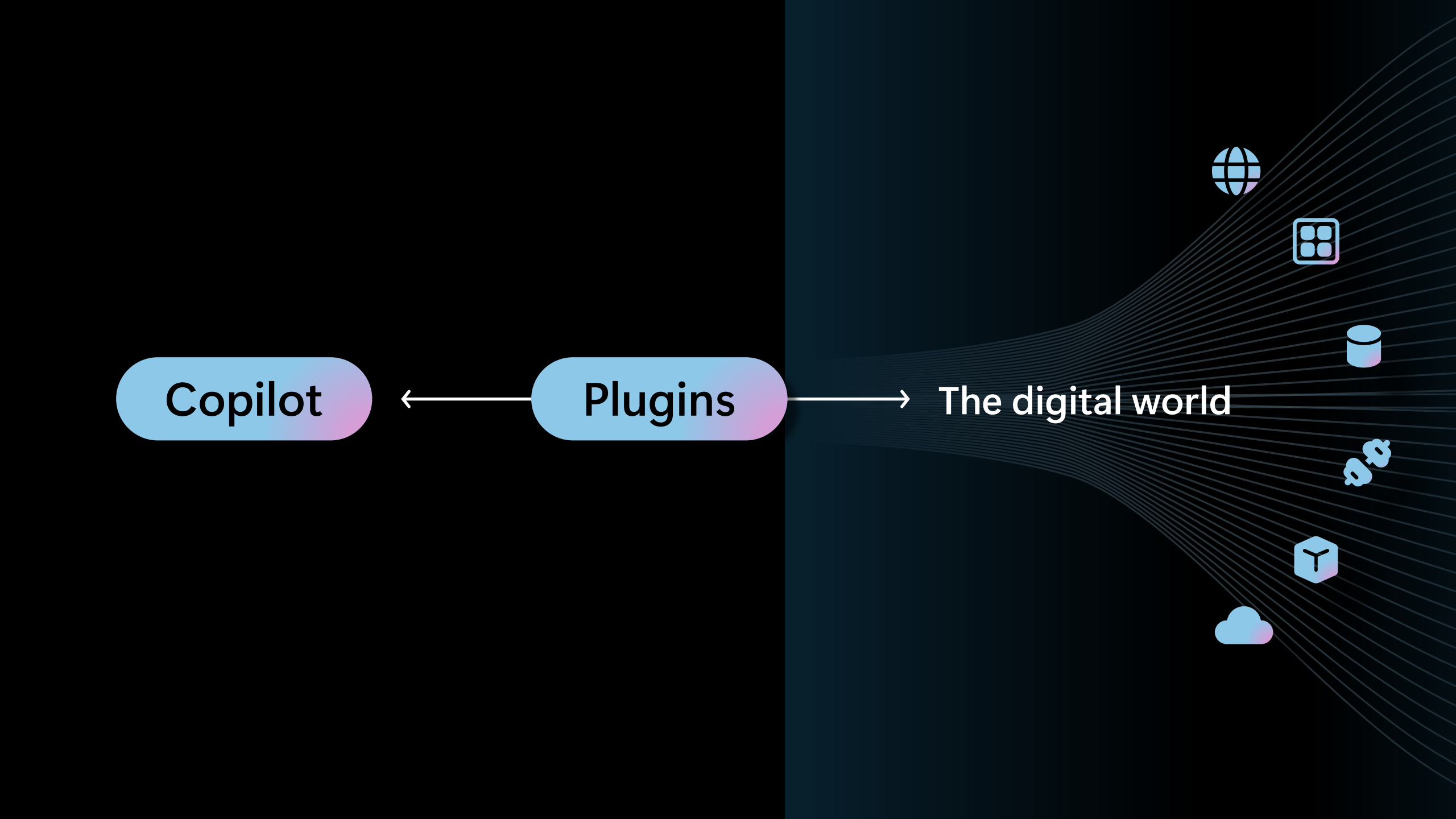
GitHub Copilot

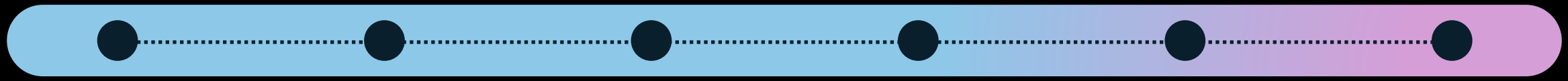
46% of new code is now written by AI

55% faster overall developer productivity

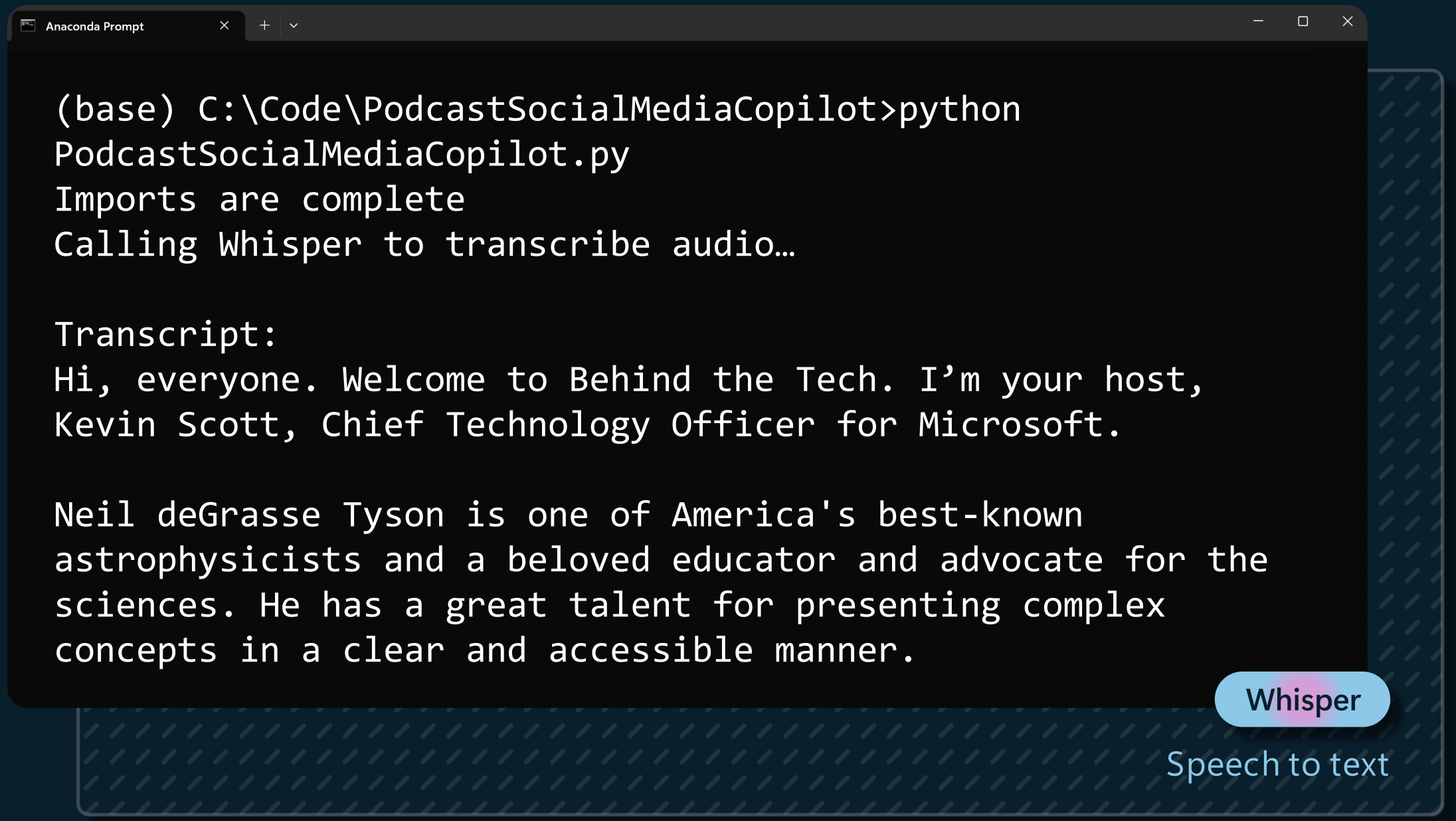
75% developers feel more focused on satisfying work

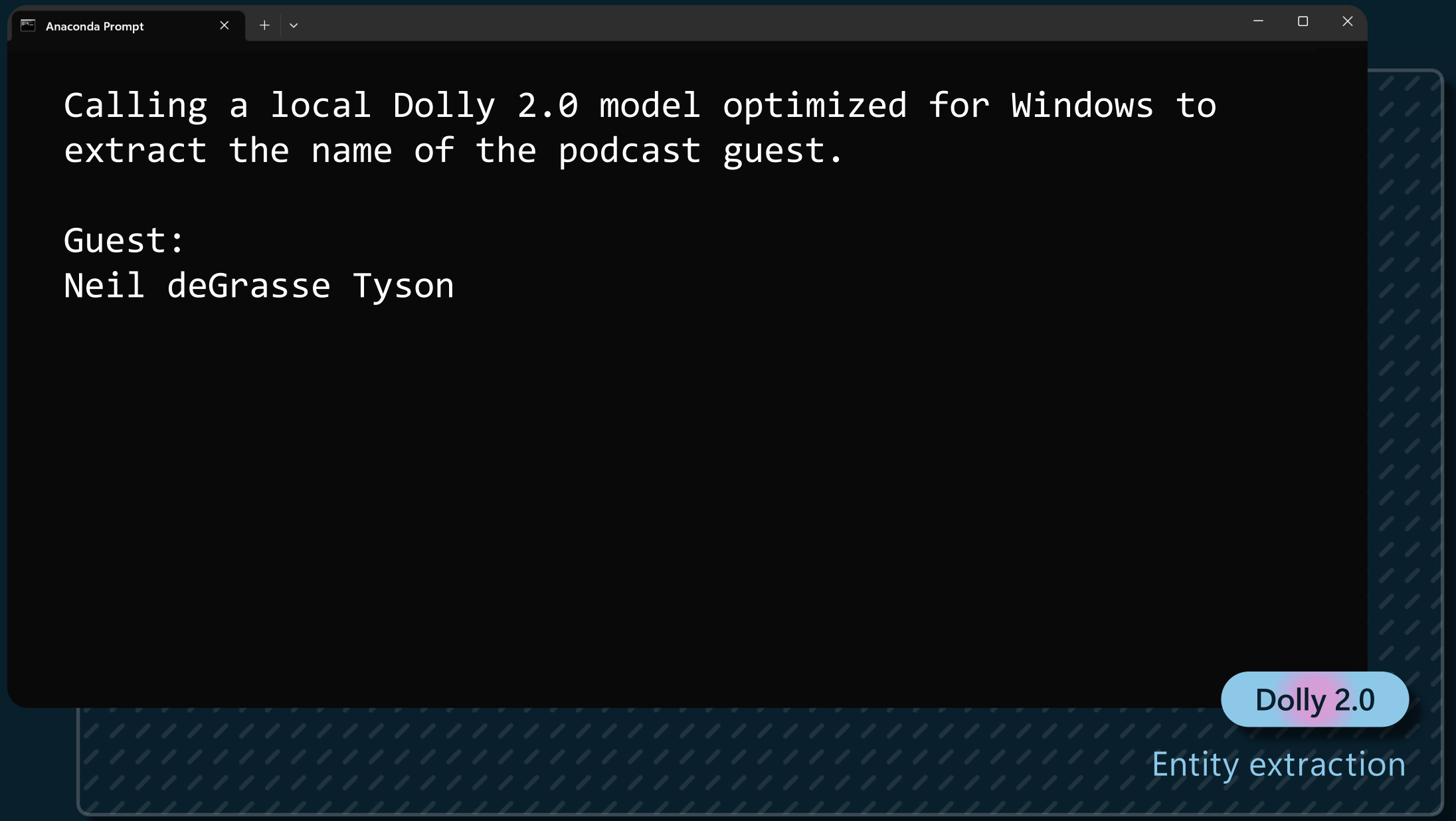


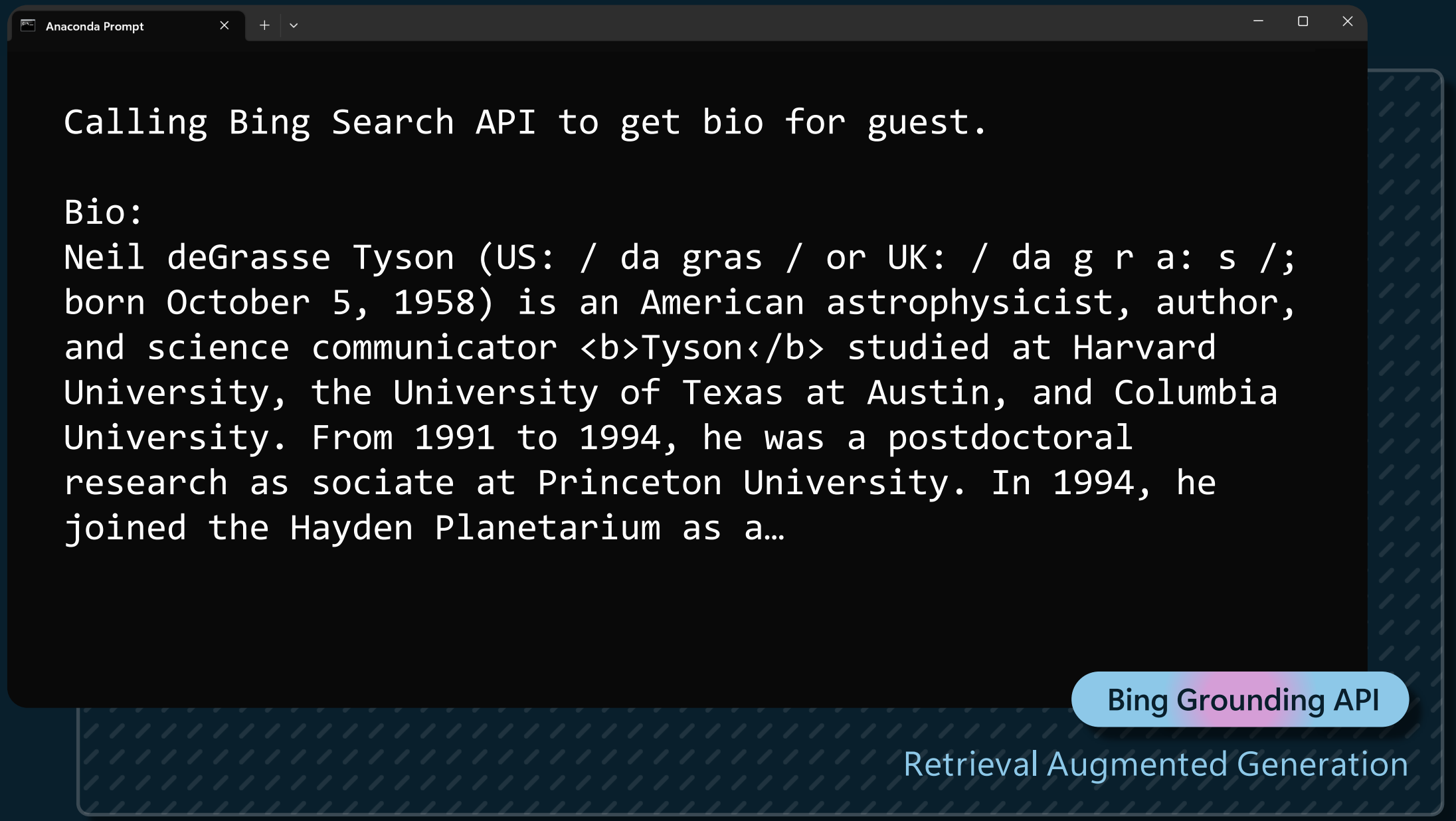

Copilot
Plugins
The digital world

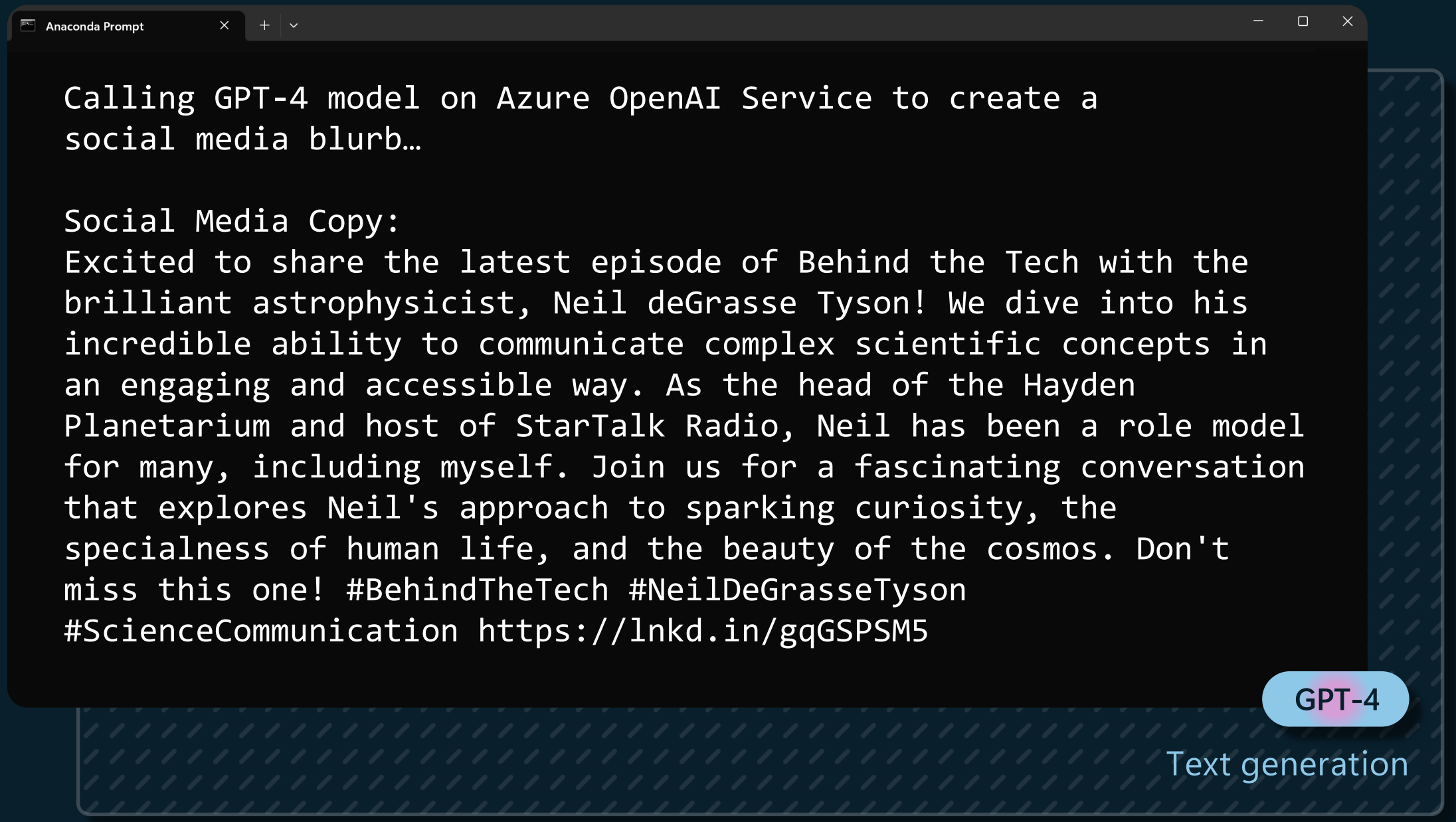


Local	Local	Cloud	Cloud	Cloud	Cloud
Whisper model	**Dolly 2.0 model**	**Bing Search Grounding API**	**GPT-4 on Azure OpenAI**	**DALL-E 2 on Azure OpenAI**	**LinkedIn Plugin for Copilots**
↓	↓	↓	↓	↓	↓
Transcript	Extract guest name	Retrieve bio for guest	Create social media blurb	Generate image	Post


Anaconda Prompt
(base) C:\Code\PodcastSocialMediaCopilot>python PodcastSocialMediaCopilot.py
Imports are complete
Calling Whisper to transcribe audio…
Transcript:
Hi, everyone. Welcome to Behind the Tech. I’m your host, Kevin Scott, Chief Technology Officer for Microsoft.
Neil deGrasse Tyson is one of America's best-known astrophysicists and a beloved educator and advocate for the sciences. He has a great talent for presenting complex concepts in a clear and accessible manner.
Whisper
Speech to text


Anaconda Prompt
Calling a local Dolly 2.0 model optimized for Windows to extract the name of the podcast guest.
Guest:
Neil deGrasse Tyson
Dolly 2.0
Entity extraction


Anaconda Prompt
Calling Bing Search API to get bio for guest.
Bio:
Neil deGrasse Tyson (US: / da gras / or UK: / da g r a: s /; born October 5, 1958) is an American astrophysicist, author, and science communicator <b>Tyson‹/b> studied at Harvard University, the University of Texas at Austin, and Columbia University. From 1991 to 1994, he was a postdoctoral research as sociate at Princeton University. In 1994, he joined the Hayden Planetarium as a…
Bing Grounding API
Retrieval Augmented Generation


Anaconda Prompt
Calling GPT-4 model on Azure OpenAI Service to create a social media blurb…
Social Media Copy:
Excited to share the latest episode of Behind the Tech with the brilliant astrophysicist, Neil deGrasse Tyson! We dive into his incredible ability to communicate complex scientific concepts in an engaging and accessible way. As the head of the Hayden Planetarium and host of StarTalk Radio, Neil has been a role model for many, including myself. Join us for a fascinating conversation that explores Neil's approach to sparking curiosity, the specialness of human life, and the beauty of the cosmos. Don't miss this one! #BehindTheTech #NeilDeGrasseTyson #ScienceCommunication https://lnkd.in/gqGSPSM5
GPT-4
Text generation

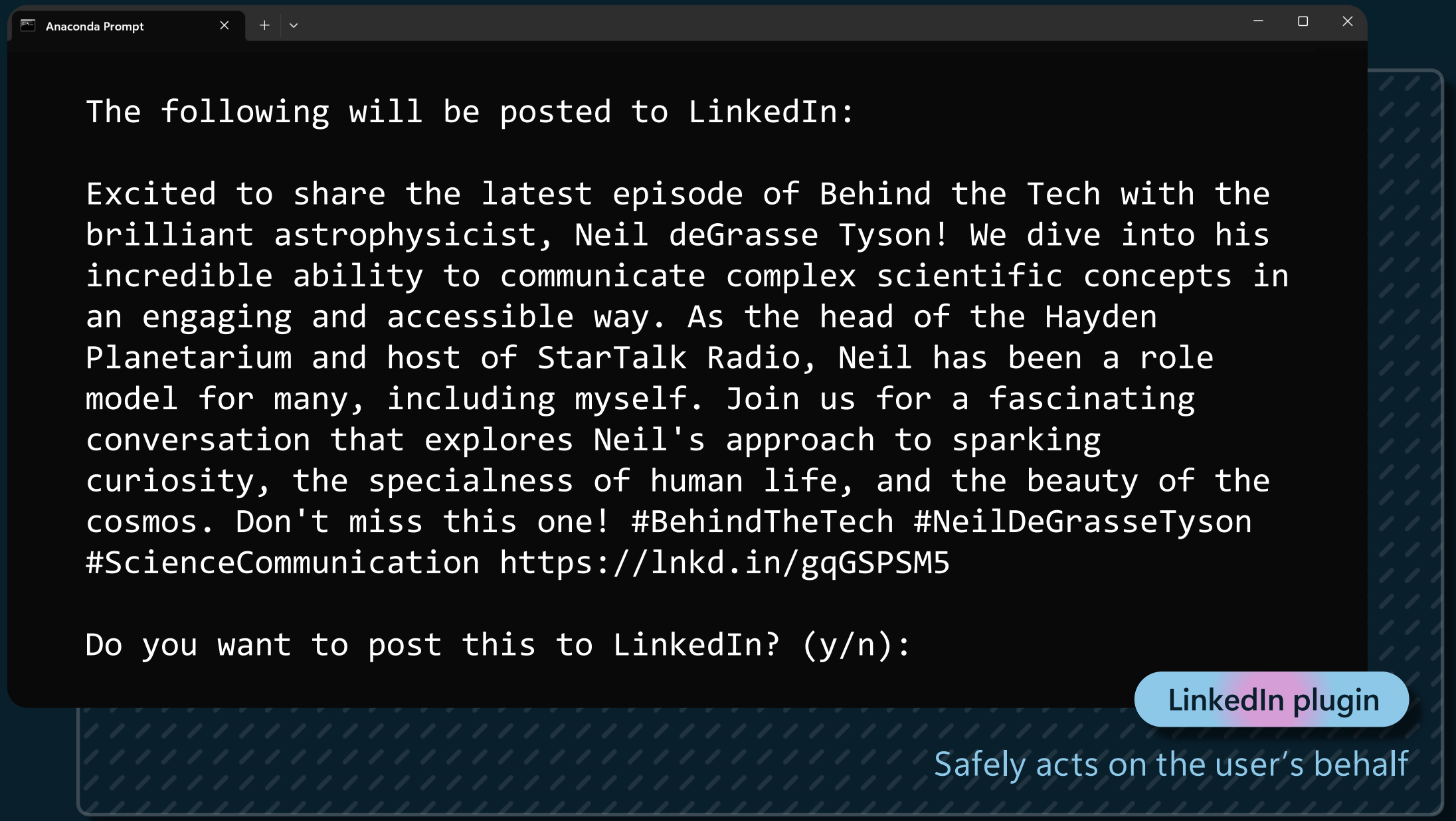
Anaconda Prompt

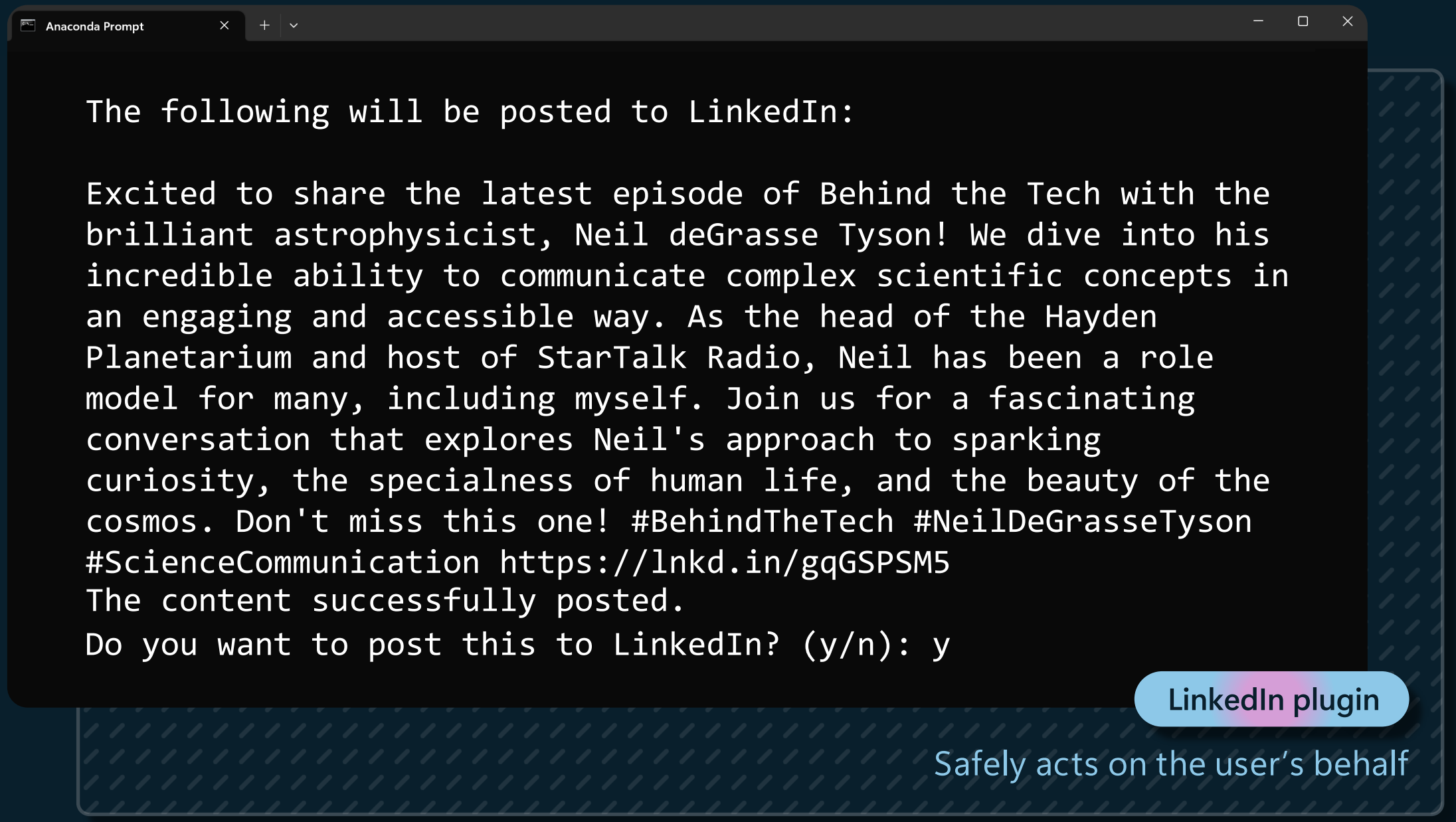
```
Calling DALL-E model on Azure OpenAI Service to get an image
for social media…

Image: saved to PostImage.jpg
```

DALL-E

Image generation


Anaconda Prompt
The following will be posted to LinkedIn:
Excited to share the latest episode of Behind the Tech with the brilliant astrophysicist, Neil deGrasse Tyson! We dive into his incredible ability to communicate complex scientific concepts in an engaging and accessible way. As the head of the Hayden Planetarium and host of StarTalk Radio, Neil has been a role model for many, including myself. Join us for a fascinating conversation that explores Neil's approach to sparking curiosity, the specialness of human life, and the beauty of the cosmos. Don't miss this one! #BehindTheTech #NeilDeGrasseTyson #ScienceCommunication https://lnkd.in/gqGSPSM5
Do you want to post this to LinkedIn? (y/n):
LinkedIn plugin
Safely acts on the user's behalf


Anaconda Prompt
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The content successfully posted.
Do you want to post this to LinkedIn? (y/n): y
LinkedIn plugin
Safely acts on the user's behalf

LinkedIn

https://www.linkedin.com

Search

Kevin Scott

CTO Microsoft, Author of "Reprogramming the American Dream"

Followers 745,818

All activity

Posts | Comments | Videos | Images | More

Kevin Scott
CTO Microsoft, Author of "Reprogramming the A...
now •

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#BehindTheTech #NeilDeGrasseTyson #ScienceCommunication
https://lnkd.in/gqGSPSM5

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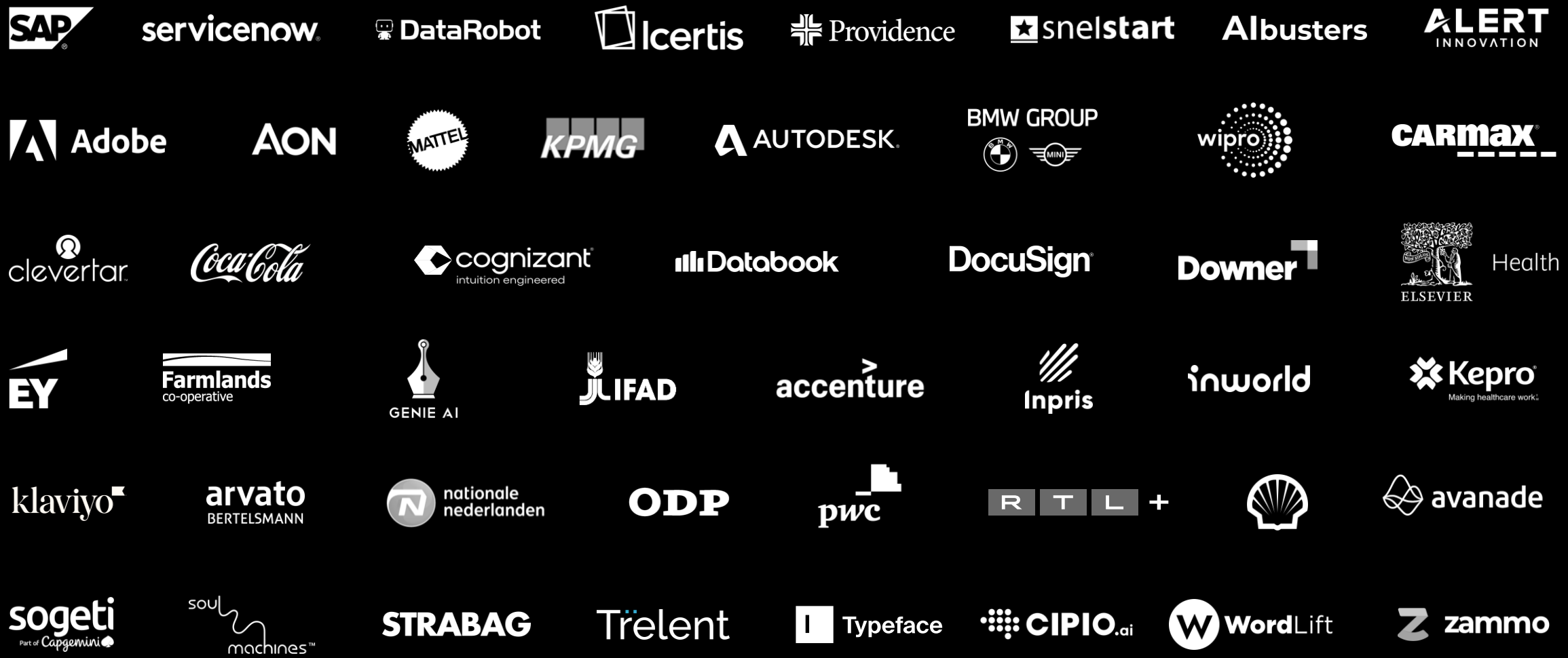
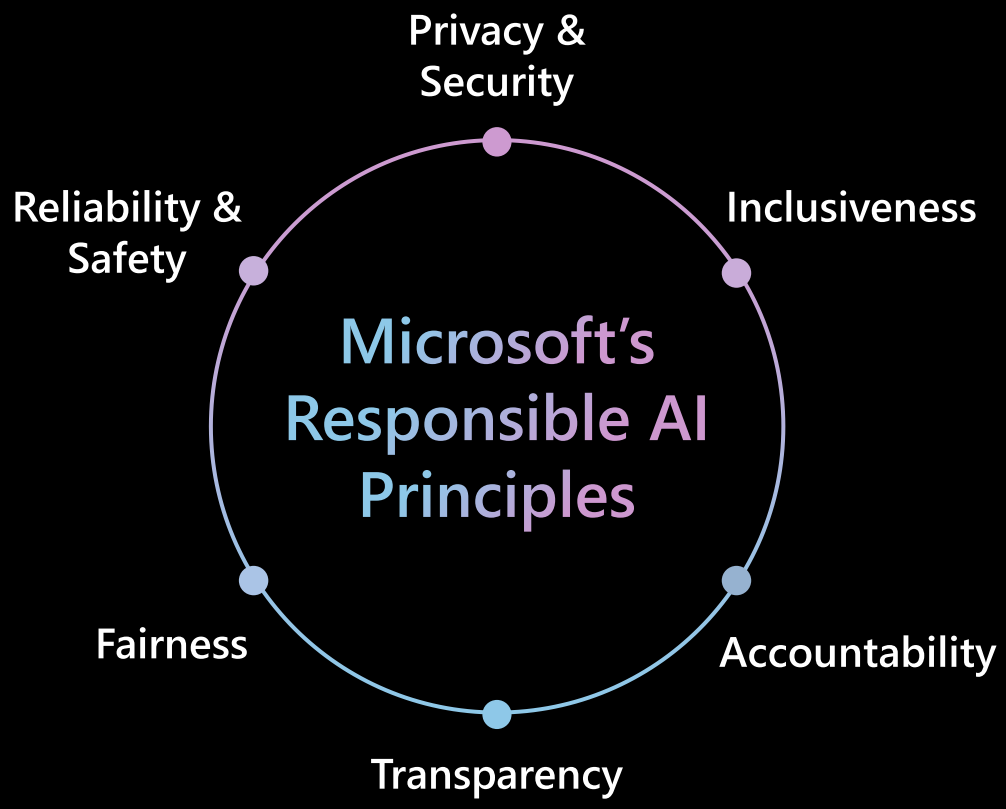
Azure OpenAI Service customer momentum



Microsoft Cloud

Runs on trust



Your data is your data

Your data from any fine-tuning is not used to train the foundational AI models

Your data is protected by the most comprehensive enterprise compliance and security controls

AI Infrastructure

AI at any scale with AI optimized Azure Virtual Machines

Purpose-built AI infrastructure

Reliability at scale for large AI models

Proven AI supercomputing performance

Microsoft runs on Azure AI

Microsoft 365 Copilot

Microsoft Security Copilot

Microsoft Dynamics 365 Copilot

Power Platform Copilot

Bing

GitHub Copilot

Nuance

HPC/AI Resource Stack on Azure

Transformative Services

Azure Machine Learning | Azure Data Lake | Azure ML Compute

Workload Orchestration

VM Scale Sets | Azure Batch | Azure CycleCloud

Fast, Secure Networking

ExpressRoute | InfiniBand

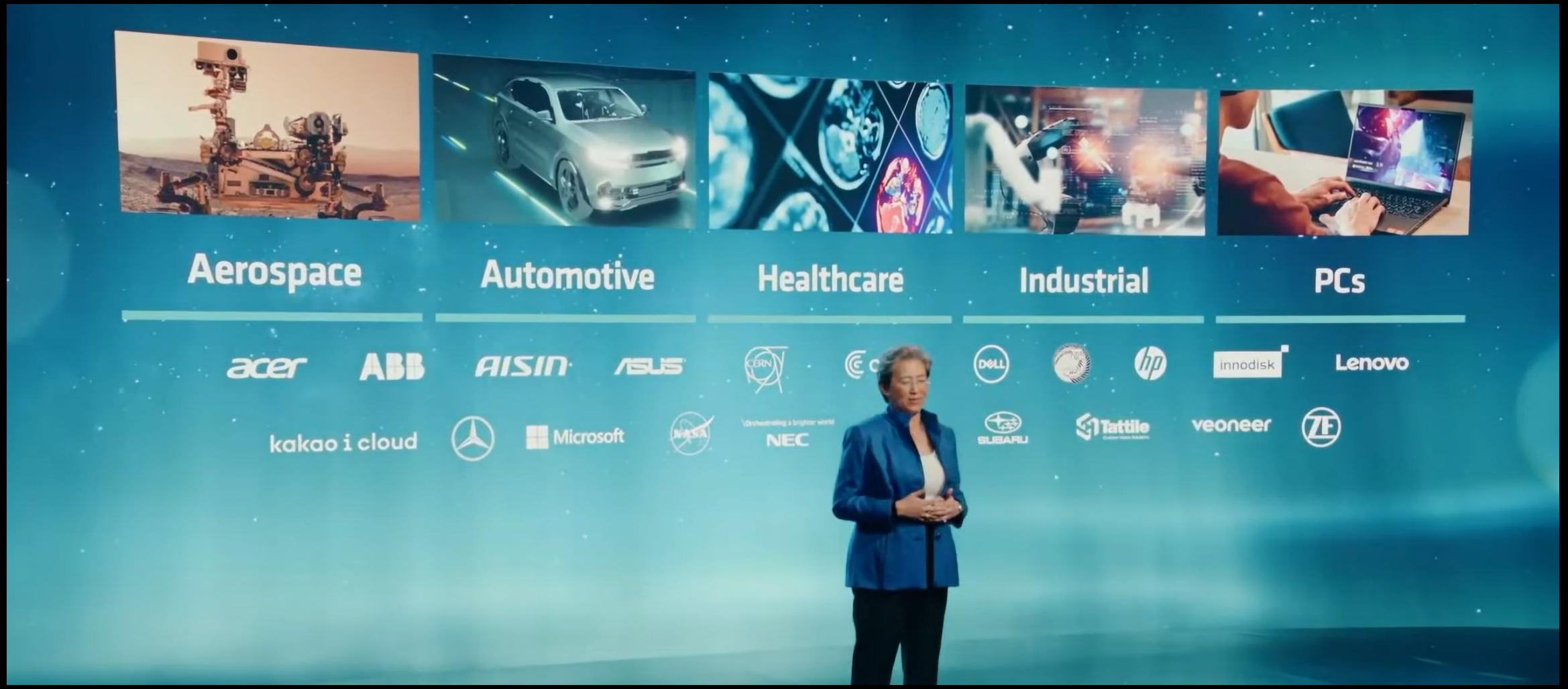
High Performing Storage

Azure HPC Cache | Azure NetApp Files | Clusterstore

Optimized Compute

H-Series | N-Series | Cray

Not just selling, but also a customer



WW No. 11 in Top 500 with AMD EPYC+MI250X

EXPLORER-WUS3 - ND96_AMSR_MI200_V4, AMD EPYC 7V12 48C 2.45GHZ, AMD INSTINCT MI250X, INFINIBAND HDR

Site:	West US3
System URL:	http://www.azure.com
Manufacturer:	Microsoft Azure
Cores:	445,440
Processor:	AMD EPYC 7V12 48C 2.45GHz
Interconnect:	Infiniband HDR
Installation Year:	2023
Performance	
Linpack Performance (Rmax)	53.96 PFlop/s
Theoretical Peak (Rpeak)	86.99 PFlop/s
Nmax	5,579,520
Software	
Operating System:	Ubuntu 20.04

RANKING

List	Rank	System	Vendor	Total Cores	Rmax (PFlop/s)	Rpeak (PFlop/s)	Power (kW)
06/2023	11	ND96_amsr_MI200_v4, AMD EPYC 7V12 48C 2.45GHz, AMD Instinct MI250X, Infiniband HDR	Microsoft Azure	445,440	53.96	86.99	

Microsoft Cloud
Digital Transformation
AI Transformation

Microsoft

Thank you