

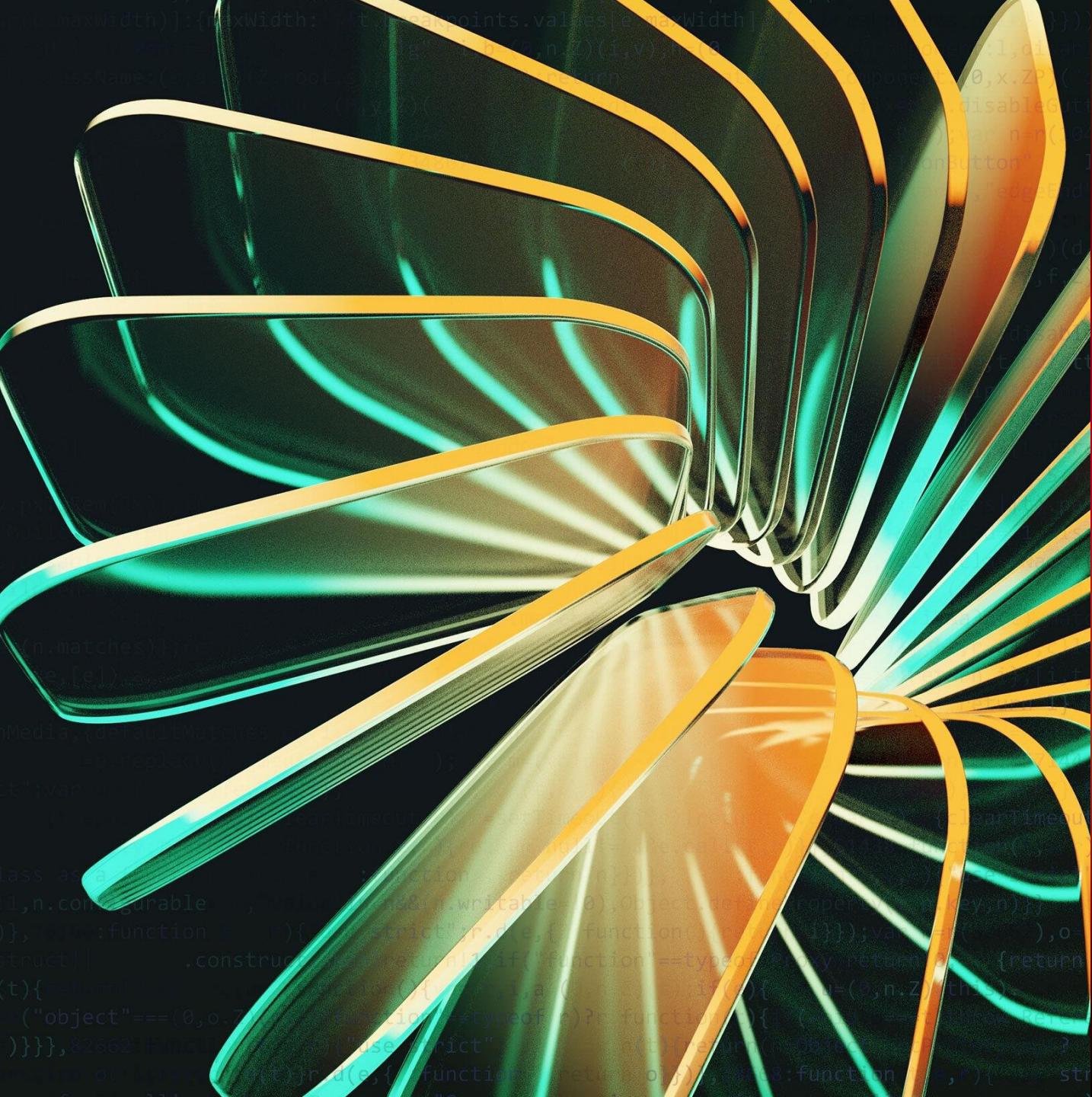
A group of six diverse individuals are gathered around a laptop, looking intently at the screen. The scene is set in a modern office with a wooden ceiling, exposed pipes, and large windows. The text "Azure AI Foundry" is overlaid in the center, and a small "♪♪" icon is at the bottom right.

# Azure AI Foundry





# Azure Utopia Quest



```
section .data
    msg db 'Hello, World!', 0xA ; Define the message string with a newline
                                character

section .bss

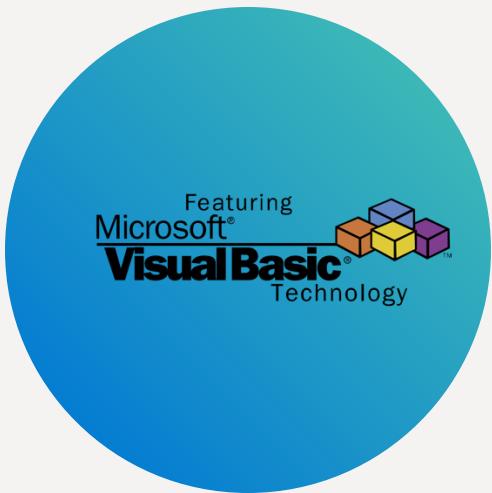
section .text
    global _start ; Entry point for the program

_start:
    ; Write the message to stdout
    mov rax, 1 ; System call number (sys_write)
    mov rdi, 1 ; File descriptor (stdout)
    mov rsi, msg ; Pointer to the message
    mov rdx, 13 ; Message length
    syscall ; Make the system call

    ; Exit the program
    mov rax, 60 ; System call number (sys_exit)
    xor rdi, rdi ; Exit code 0
    syscall ; Make the system call
```

# The Microsoft Developer Journey

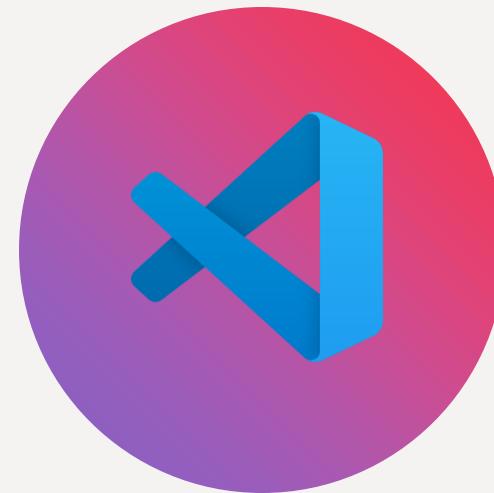
## Empowering Innovation Through the Years



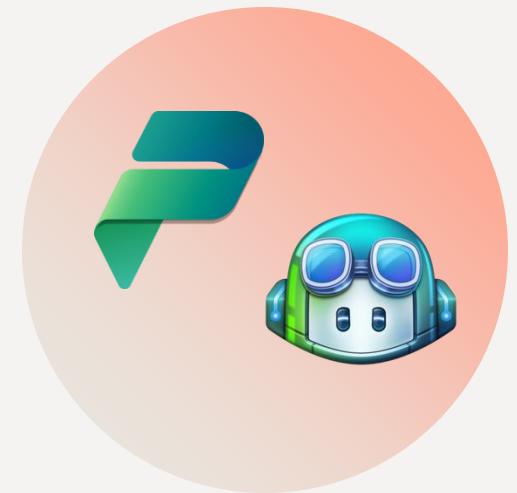
**1980s-1990s**  
The Foundation Era



**2000s**  
The Ecosystem Era



**2010s**  
The Cloud Era



**2020s**  
The AI-Driven Era

## **Morning Routine**

Manual ticket prioritization, documentations

## **Coding**

Writing from scratch, manual debugging

## **Collaboration**

Manual updates, traditional brainstorming

## **Testing**

Manual test cases and bug fixes

## **Learning**

Books, tutorials, trial and error





## **Morning Routine**

AI organizes tasks and provides summaries

## **Coding**

AI generates boilerplate code, fixes bugs

## **Collaboration**

AI-assisted reports, simulations, pair coding

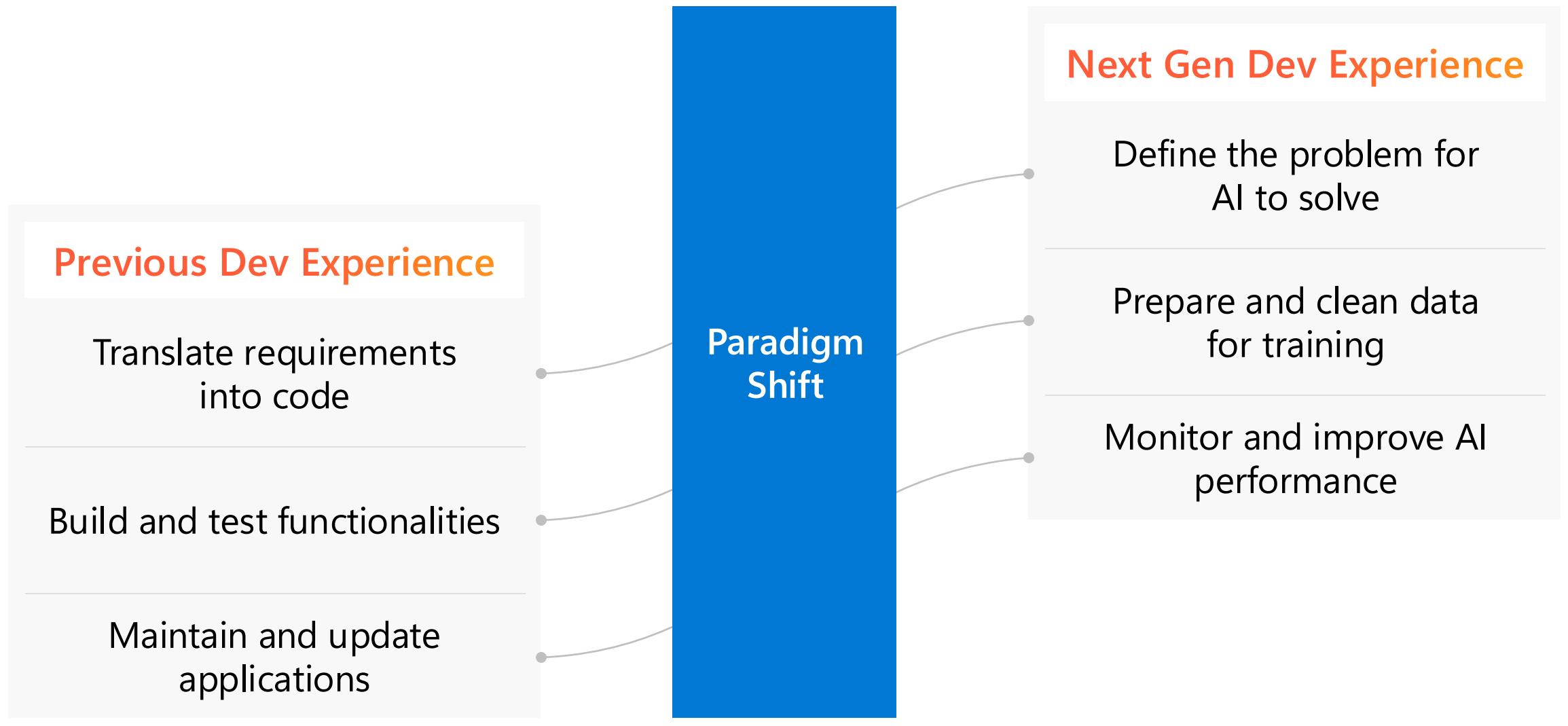
## **Testing**

AI auto-generates tests and flags issues

## **Learning**

AI-curated learning paths, guided implementation

# Shifting roles and responsibilities



# Microsoft and OpenAI Partnership



Ensure that artificial general intelligence (AGI) benefits humanity



Empower every person and organization on the planet to achieve more

## Azure OpenAI Service

Language

**o1 series**  
GPT-4  
4-Turbo  
3.5-Turbo

Multi-modal

**GPT-4o mini**  
GPT-4o  
GPT-4-Turbo  
with Vision

Fine tuning

**GPT-4**  
GPT-3.5-Turbo

Images

DALL·E 3

Transcription and translation

Whisper

On Your Data GA

Azure AI Studio GA

Assistants API Preview

Provisioned Throughput

**Investments for the Singapore Government**

# Azure OpenAI Residency in SG

Microsoft teams are working on the local availability of Azure Open AI and its supporting infrastructure in Singapore, currently targeting the Dec'24 - Jan'25 timeframe.

However, this is subject to change depending on logistics and other supporting infrastructural component availability.

# Azure Utopia: Road to the Promise Land

United Nation has appointed several rocket companies to lead this mission, involving the future of planet.

You, as a project team, will then leverage the AI technologies to rewrite the future of humankind.

You are given a set of tools to achieve this mission, starting from branding your campaign, recruiting passengers, and send them safely to Eutopia.



# Azure Utopia: Road to the Promise Land

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## What You Will Go Through Today



# Azure Utopia: Road to the Promise Land

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## What You Will Go Through Today

### Stage 1

#### **Who Are We? Brand Ourselves!**

Use Generative AI for creative work!

Let Gen AI be your brainstorming buddy.

### Stage 2

#### **I Want To Find Out More!**

Build RAG solution to generate responses based on private data.

### Stage 3

#### **You Are the Lucky One**

Statistical Machine Learning with Generative AI, enable Gen AI to perform advanced calculation.

### Stage 4

#### **Onboard Now**

Multi-modal Gen AI, process beyond text, such as images & databases.

### Stage 5

#### **Welcome to Utopia!**

Integrate solutions with Small Language Model, ability to run language model with constraint resource.

# Event Agenda

Time	Activity	Objective
8:30 AM – 9:00 AM	Registration & Networking	Participants arrive, register, and set up Azure accounts
9:00 AM – 9:30 AM	Kickoff & Storyline Introduction	Overview of Azure Eutopia storyline, challenges, agenda
9:30 AM – 10:30 AM	Stage 1: "Who Are We? Brand Ourselves"	Create a name, logo, and mission description using Azure AI
10:30 AM – 11:30 AM	Stage 2: "I Want To Find Out More"	Automate FAQs with AI Search and Azure Open AI
11:30 AM – 12:30 PM	Stage 3: "You Are The Lucky One"	Integrate Statistical ML into Gen AI
12:30 PM – 1:30 PM	Lunch Break & Networking	Networking
1:30 PM – 2:30 PM	Stage 4: "Onboard Now"	Conduct security checks using Azure OpenAI and multi-modal AI
2:30 PM – 3:30 PM	Stage 5: "Welcome To Utopia"	Develop Gen AI Solution with Small Language Model (SLM)
3:30 PM – 4:00 PM	Recap + Updates	Recap and tech update on solution used
4:00 PM – 4:30 PM	Award Ceremony & Closing Remarks	Awards, feedback, and closing remarks



# Making AI Real

# Start with Building Apps with AI

Quick Introduction To Your AI Buddy 😊



GitHub



Azure



# GitHub Codespaces

Your IDE in the cloud.  
Full Development Experience on Browser.

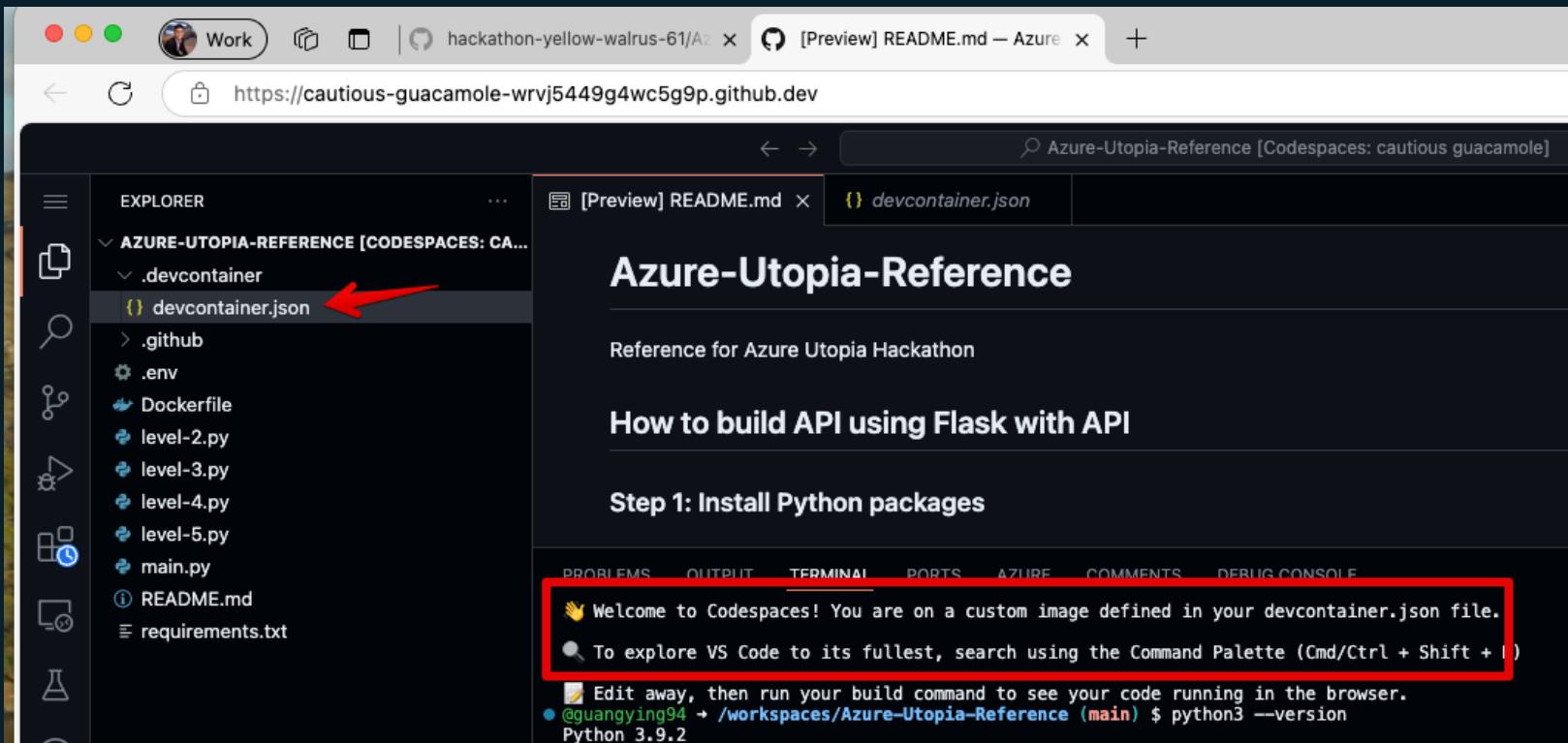
The image shows two screenshots illustrating the GitHub Codespaces interface. The left screenshot is a screenshot of a GitHub repository page for 'Azure-Utopia-Reference'. It features a 'Code' button highlighted with a red box and a red arrow pointing to a '+' button in the 'Codespaces' section of the interface. The right screenshot is a screenshot of a web browser displaying a Codespace. The browser window title is 'README.md – Azure-Utopia-R...'. The page content shows a code editor with a preview of 'README.md' containing instructions for deploying a Flask API. The interface includes standard browser controls like back, forward, and search, along with GitHub-specific features like the Explorer sidebar and terminal access.

*Fun fact: You can now do proper development on tablet such as iPad!*



# VS Code Dev Containers

Consistent Development Environment.  
Pre-defined as container.





# GitHub Copilot

Your Favorite Pair Programmer.  
From coding to troubleshooting.

A screenshot of a code editor window titled "Azure-Utopia-Reference [Codespaces: cautious guacamole]". The current file is "main.py" with 1 modification. The code contains two lines:

```
1 # Create a simple flask app that return health status using get
2 From Flask import Flask
```

The first line is highlighted with a red box.

Comments to Code

A screenshot of a code editor window titled "[Preview] README.md" and "main.py M". The current file is "main.py" with 1 modification. The code contains:

```
1 # Create a simple flask app that return health status using get
```

The right side of the screen shows a sidebar for GitHub Copilot, which includes a message from user "guangyng94" and a list of steps to create a simple Flask API app. The sidebar is also highlighted with a red box.

Chat to Code

# Let's Get Started!

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# Stage 1: Who Are We? Brand Ourselves!

You are selected to run a campaign and launch rocket to send human to Utopia! However, you are not the only one who are selected. Since everyone is new, use AI as your creativity tools to design a poster which will be shared with everyone to introduce your company, your campaign and creativity.



## Objective

Use Generative AI for creative work. Craft prompt to accelerate the development time

## Possible Tools



Azure AI Foundry



Azure OpenAI (Dall-E)

## Duration

10 minutes

# Stage 2: I Want To Find Out More!

Great! Now you have introduced yourself to public, you start receives inquiry about your launch campaign! However, your company is investing most of the resources on building the rocket, and you don't have additional resources to answer FAQ!

AI come to rescue! Luckily, you have extensive knowledge article, your task now is to develop a virtual assistant that answer questions you received from public! Well, it's public now, do watch out for potential bad actors who try to disrupt your brand!



## Objective

Understanding and build retrieval-augmented-generation API based on private data.

## Possible Tools



Azure AI Search



Azure OpenAI



Azure Container Apps



Azure Container Registry



Azure API Management

## Duration

45 minutes

# Stage 3: You Are The Lucky One

The launch campaign is successful. You have answered the queries from public, and now everyone is eager to sign up! However, there's limited capacity for the rocket, and unfortunately you can't accept application from everyone.

In this task, you are required to decide who is selected as passenger based on a machine learning algorithm. You will be given the dataset to train the model.

Don't forget to capture the details of successful applicants!



## Objective

Integrates Generative AI with Statistical Machine Learning for numerical tasks

## Possible Tools



Azure Machine  
Learning



Azure OpenAI



Azure Container Apps



Azure Cosmos DB

## Duration

60 minutes

# Stage 4: Onboard Now

The registration has closed. The rocket is ready to launch!

However, due to security, you are required to perform security check on what item is brought into the rocket. Also, don't let unregistered people to smuggle in!



## Objective

Build multi-modal Gen AI API and integration with databases

## Possible Tools



Azure OpenAI



Azure Container Apps



Azure Cosmos DB

## Duration

45 minutes

# Stage 5: Welcome To Utopia!

It was a smooth journey, and the rocket landed safely. Welcome to Utopia!

Unfortunately, it's a new planet and there's a constraint on compute resources, but as a modern rocket company, you will need to leverage AI to automate feedback collection!

You have the chance to deploy SLM to ensure a smooth transition for newcomers!



## Objective

Develop APIs with Small Language Model (SLM)

## Possible Tools



Azure AI Foundry



Azure Container Apps

## Duration

45 minutes

# Congratulations! This is What You Have Built!

Frontend  
Integration

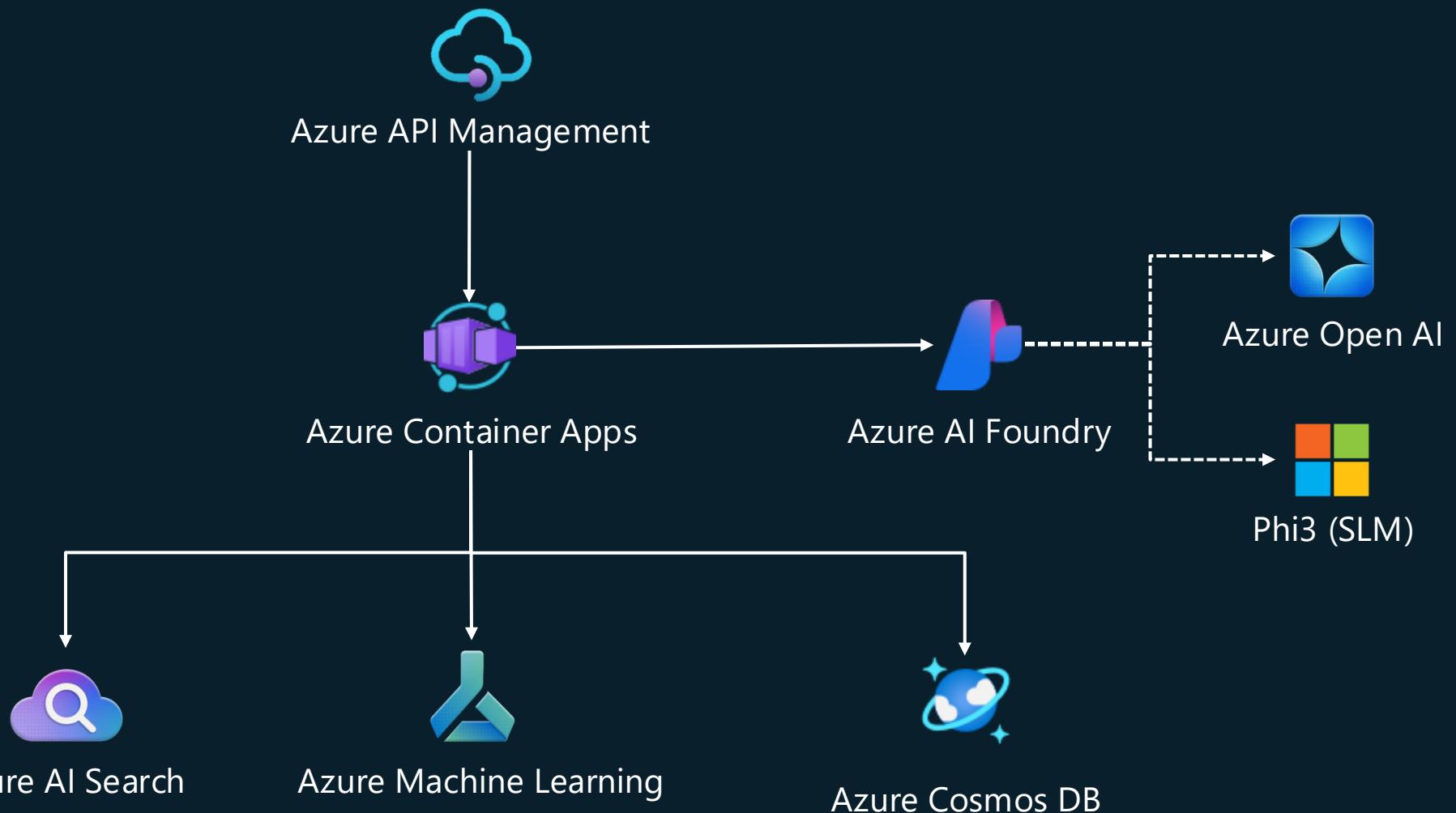
App Tier

DB Tier

Azure PaaS

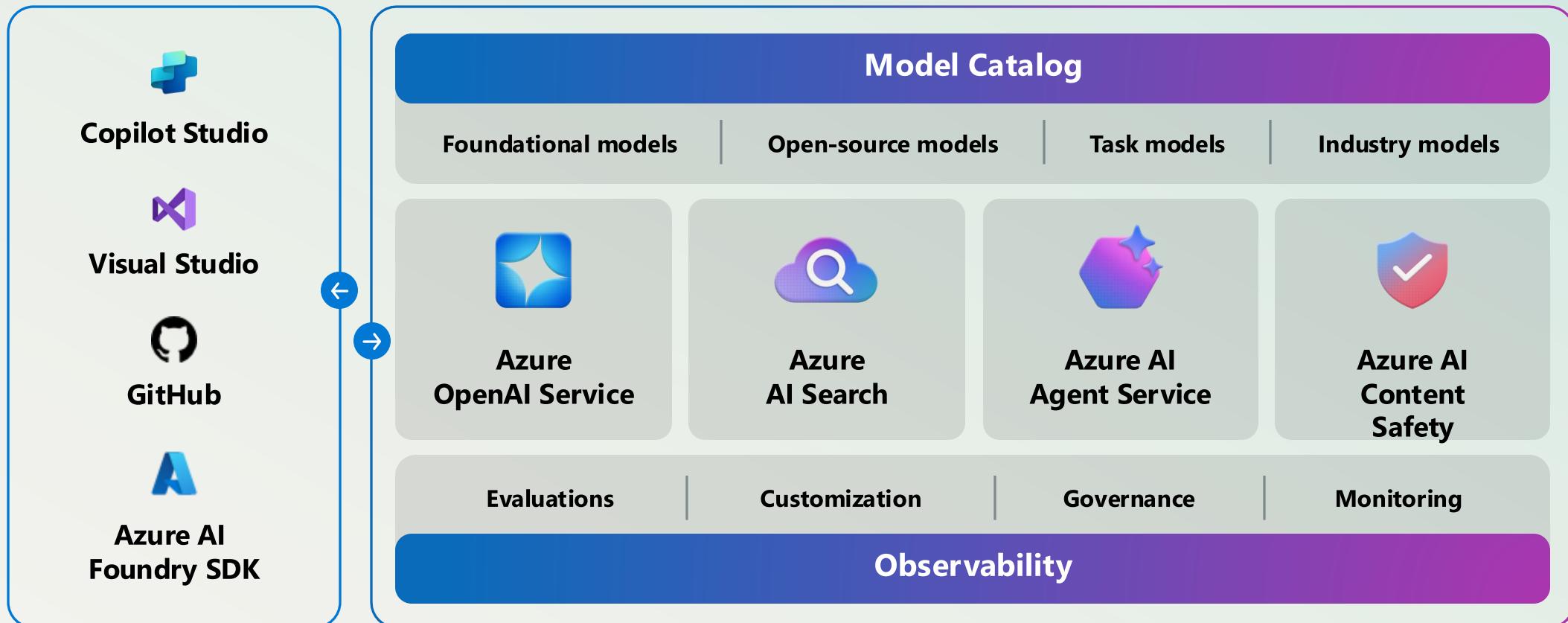
Power Platform

Copilot Studio



Announcing

# Azure AI Foundry



# Azure OpenAI Product Updates

Released

**Standard and Provisioned Data Zone**  
deployments for US and EU

New lower entry point for Provisioned Global and Data Zone offerings decreased by 70%

**Performance SLAs of 99%**  
for Latency on PTUs

**Reduced Hourly** pricing by 50%  
for Provisioned Global and Data Zones

**Prompt Caching** offering 50% reduction on Standard, free on Provisioned.

Upcoming

**Batch Data Zone**  
deployments for US and EU (soon)

**Distillation Fine Tuning** to capture, generate and evaluate fine tuning data

**GPT4o Vision Fine Tuning** enabling quality and value improvements for image reasoning.

**Enterprise Agents** adding Search, Code generation, knowledge catalog, skills catalog, memory, and data connectors.

**Model Updates** GPT4o-Audio-Preview, Predictive outputs, o1 and o1 mini GA (soon).

Coming soon

# Azure AI Agent Service

**Securely build, deploy, and scale AI agents with ease**

Rapid development  
and automation

Extensive data  
connections

Flexible model  
selection

Enterprise-grade  
security

[AI.Azure.com](https://AI.Azure.com)



# The full package

## Azure AI Foundry – Agent Service

Built-in enterprise readiness

BYO-file storage

BYO-search index

OBO Authorization Support

Enhanced Observability

### Extensive Ecosystem of Tools

#### Knowledge

 Microsoft Fabric

 SharePoint

 Bing Search

 Azure AI Search

 Your own licensed data 

 Files (local or Azure Blob)

 File Search

 Code Interpreter

#### Actions

 Azure Logic Apps

 OpenAPI 3.0 Specified Tools

 Azure Functions

### Model Catalog

 Azure OpenAI Service  
(GPT-4o, GPT-4o mini)

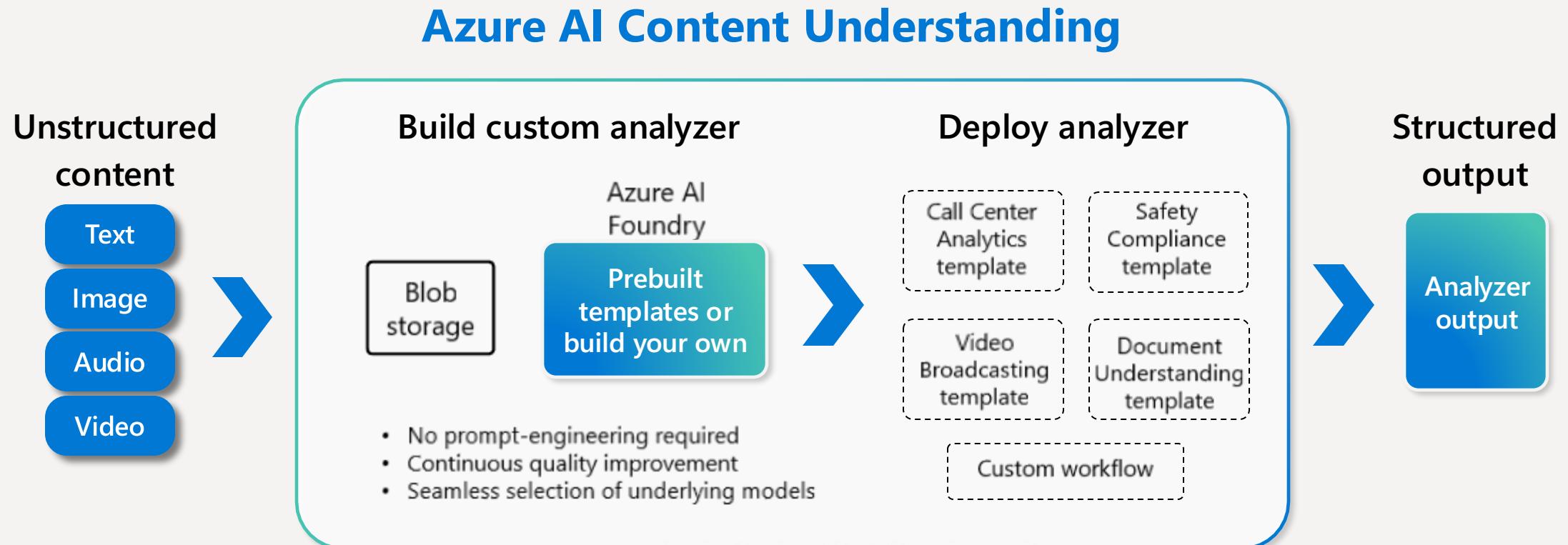
### Models-as-a-Service

 Llama 3.1-405B-Instruct

 Mistral Large

 Cohere-Command-R-Plus

# Product overview



# Use Cases



## Video analysis and broadcasting

### Audio + Video

- Generate task-specific representations, including insights, features, and summaries.
- Automatically generate chapters and scenes within videos for easier editing, remixing.
- Insert contextual ads based on video and audio being extracted and analyzed.



## Document understanding

### Document + Images

- Build information lookups or RAG scenarios with extracted content.
- Extract information from documents that include text, tables, and images of charts.
- Analyze extracted information using foundational models.
- Enable translations in other languages for smoother communication.



## Post-call analytics

### Audio + Video + Document

- Ingest a variety of content, such as audio or video call recordings.
- Transcribe, analyze, and summarize the call.
- Ensure compliance across call center agents and customer-employee conversations.

Announcing

# What's new in Azure OpenAI fine-tuning?

Distillation  
(Stored Completions +  
Evals + Fine-tuning)

Vision fine-tuning

W&B and Gretel  
integration

Provisioned and Global  
Standard deployments

Public Preview

# Generative query engine

Revolutionary RAG. Tuned for performance.

SLM-powered  
query rewriting

New  
reranking model

Higher relevance,  
lower latency

Azure AI Search

**Generally Available**

# Azure AI Content Safety

**Robust built-in guardrails for your GenAI apps**

Detect and correct  
hallucinations

Risk and safety evaluations  
for images

Filter harmful content  
and code

Mitigate security threats

Prevent copyright  
infringement

# Thank You! Appreciate Your 3 Minutes Feedback!





**Thank you**