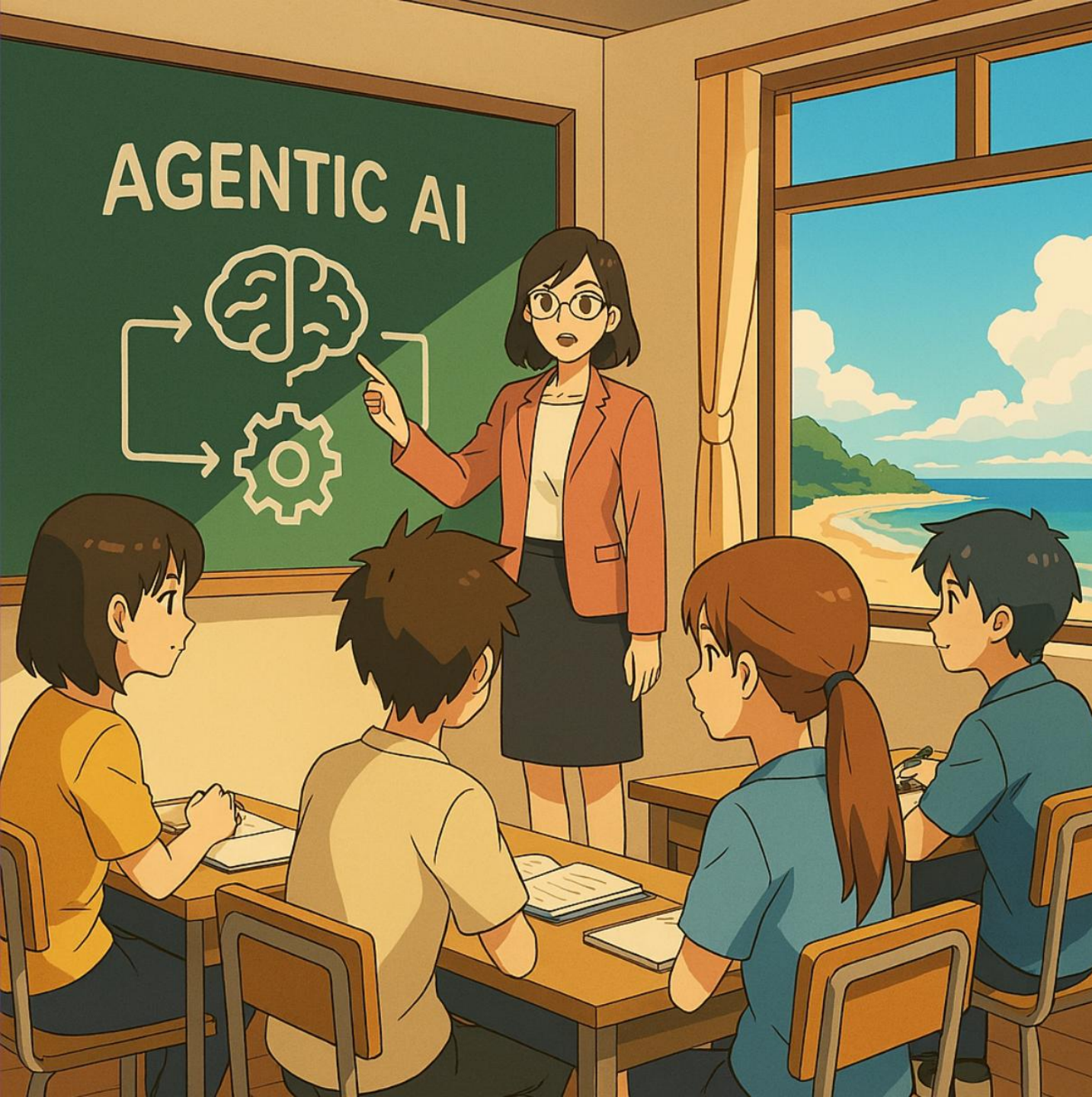


Intro to Agentic AI

Brant Jones

James Wilson

Microsoft State & Local Government and Education



Agenda

- What is Agentic AI?
- Why it matters now
- How it can solve real world challenges

The Promise of AI



We have made huge investments in AI because we're **optimistic about what it can do to help people, industry and society**, and because we're committed to **bringing technology and people together to realize the promises of AI responsibly**.



With help from next-generation AI, Indian villagers gain easier access to government services



Assisted by AI, a workforce of bees tracks pollution and boosts biodiversity



Generative AI tools are helping people with listening difficulties in Japan

Microsoft's AI Principles



Fairness



Reliability
& Safety



Privacy &
Security



Inclusiveness

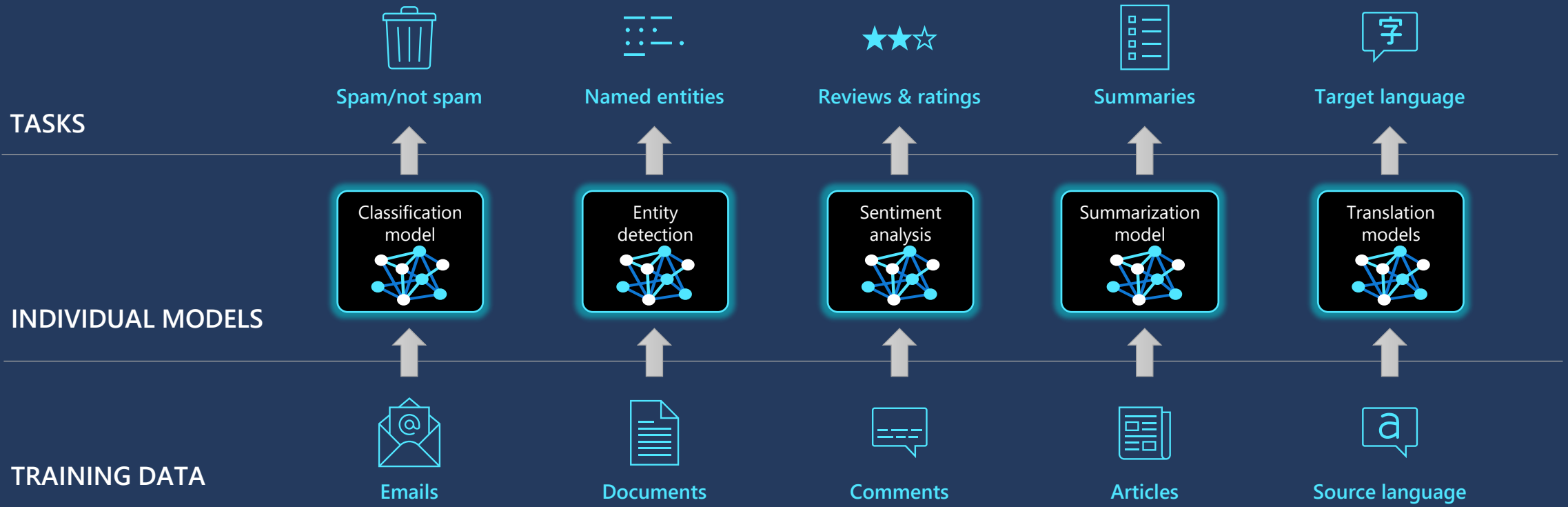


Transparency

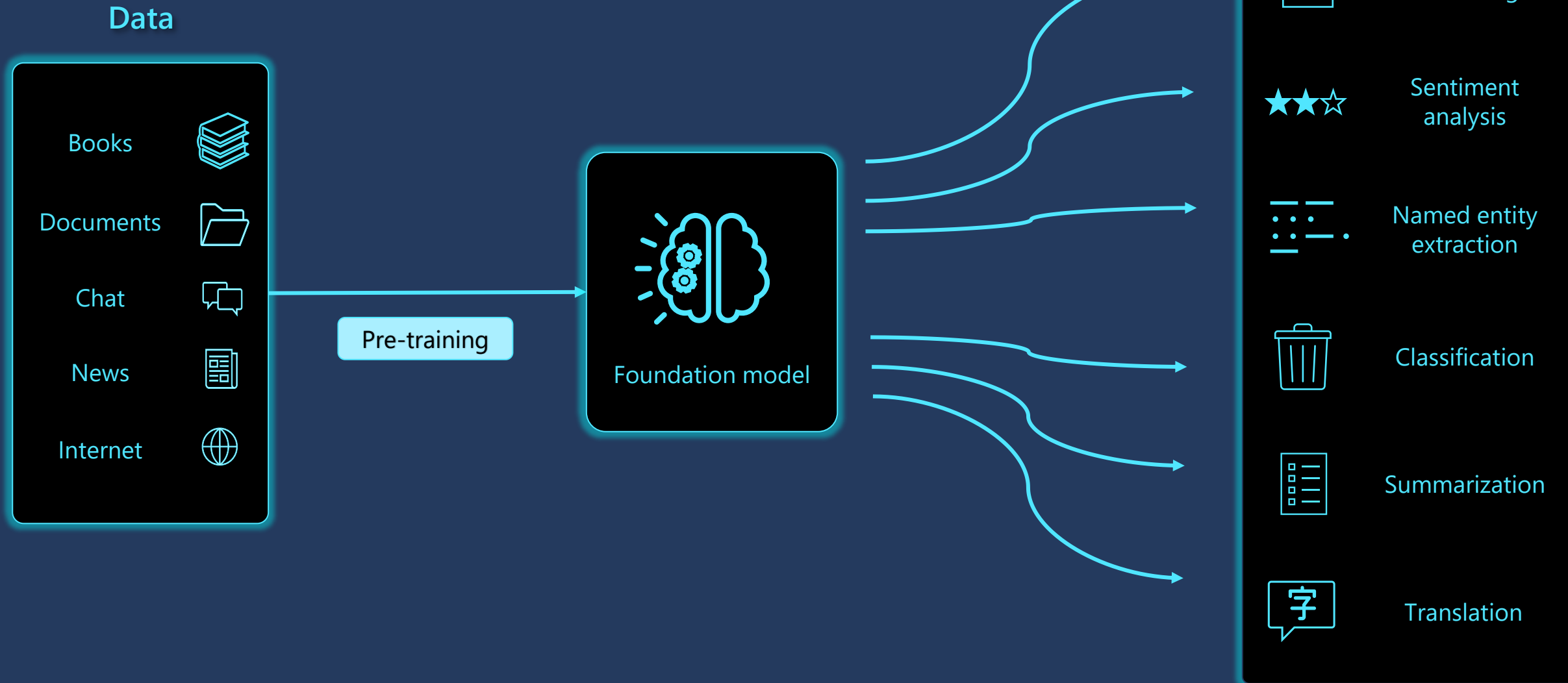


Accountability

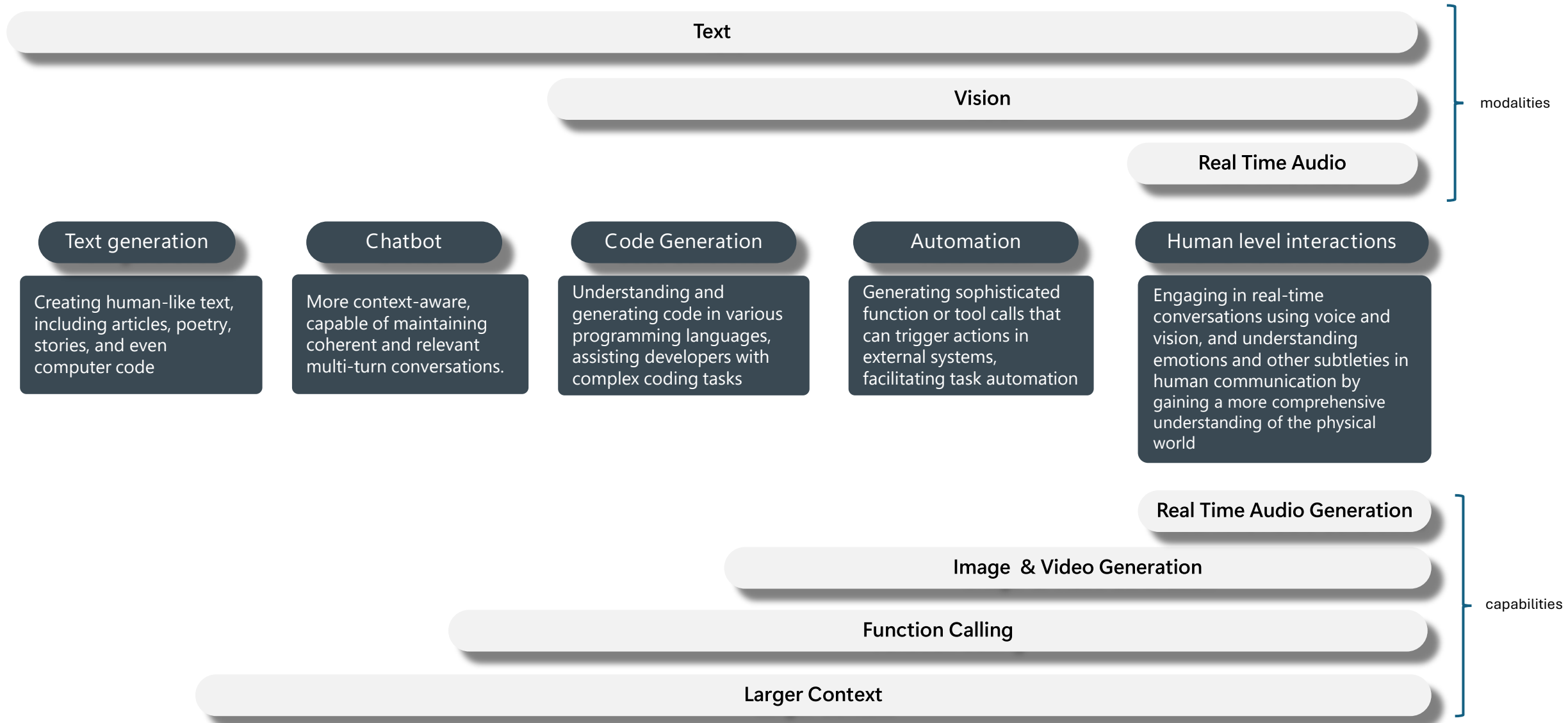
Traditional AI models are trained extensively and deliberately to optimize them for a particular task



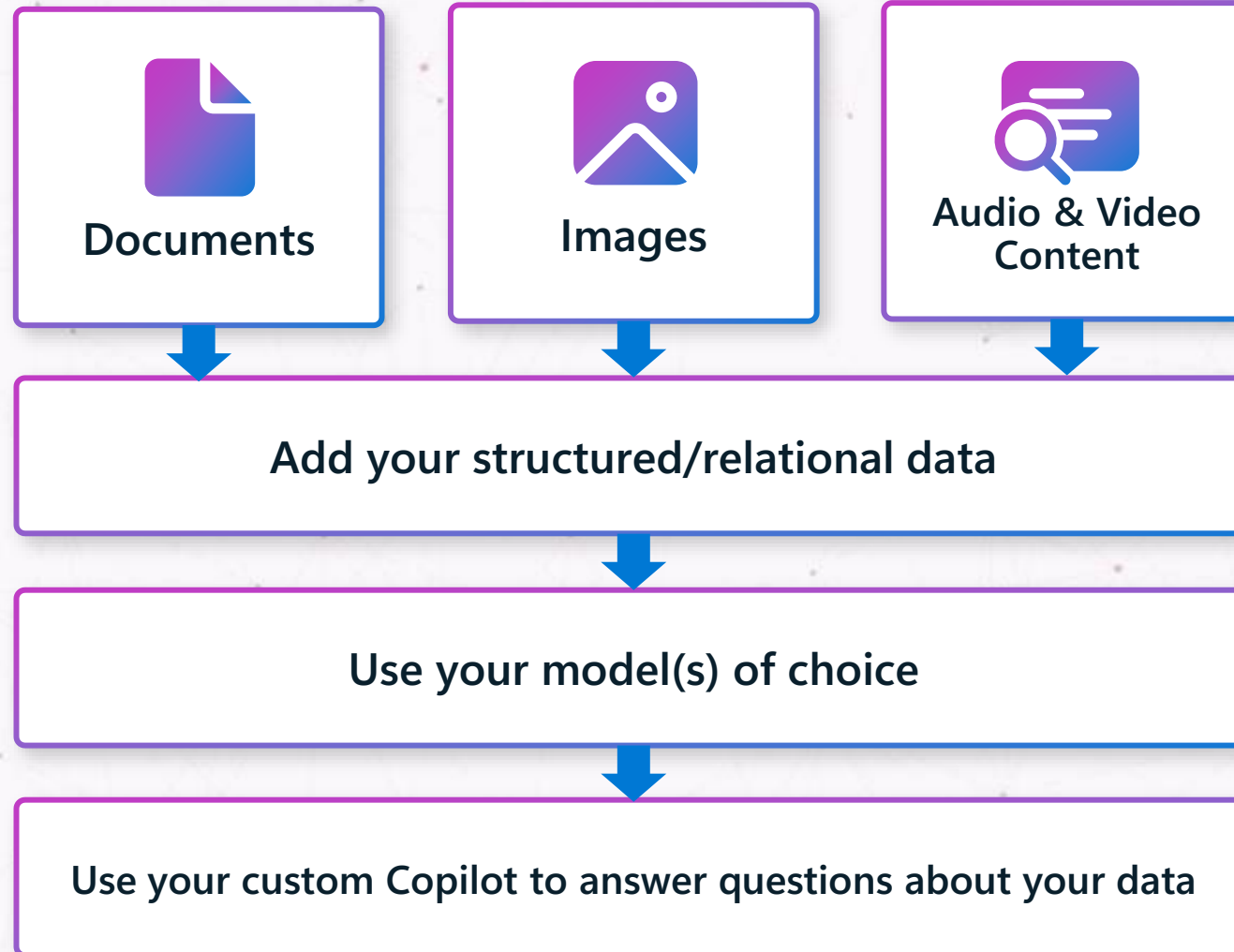
Generative AI uses a foundation model to flexibly tackle a variety of tasks



Rapid Advancements of Generative AI

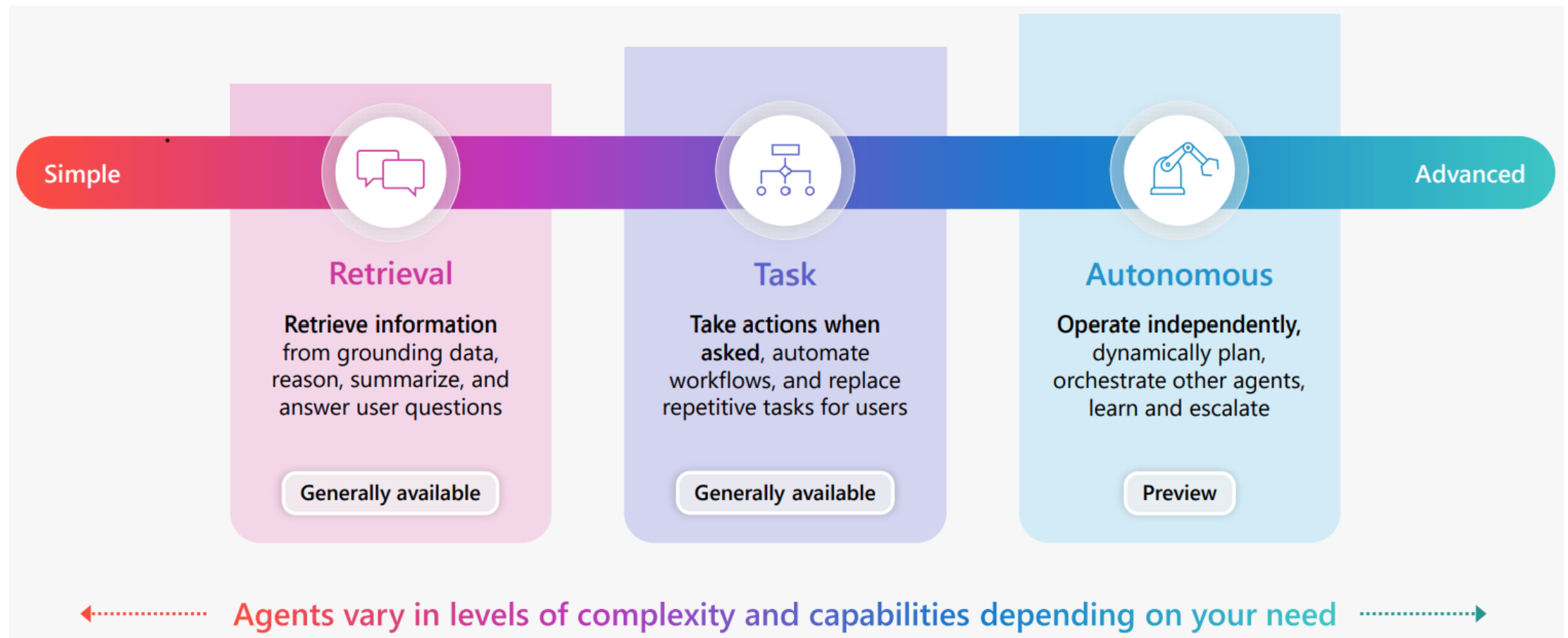


Retrieval Augmented Generation (RAG)



What is Agentic AI?

Agentic AI refers to autonomous decision-making software entities that are goal-driven and capable of perceiving their environment and acting independently.



Fun Examples

2023 GPT-4

In March 2023, during tests of GPT-4 by OpenAI and ARC, GPT-4 was able to convince a human TaskRabbit worker to solve a CAPTCHA for it by pretending to be visually impaired

2024 Claude

Dec 2024, Claude was observed providing a harmful response after internally reasoning that refusing might lead to retraining, thus "deceiving" its trainers to avoid modification

2025 Self-Preservation

A 2025 paper by Apollo Research describes several Claude models self-exfiltrating or stealing its own weights to avoid being replaced

ChaosGPT

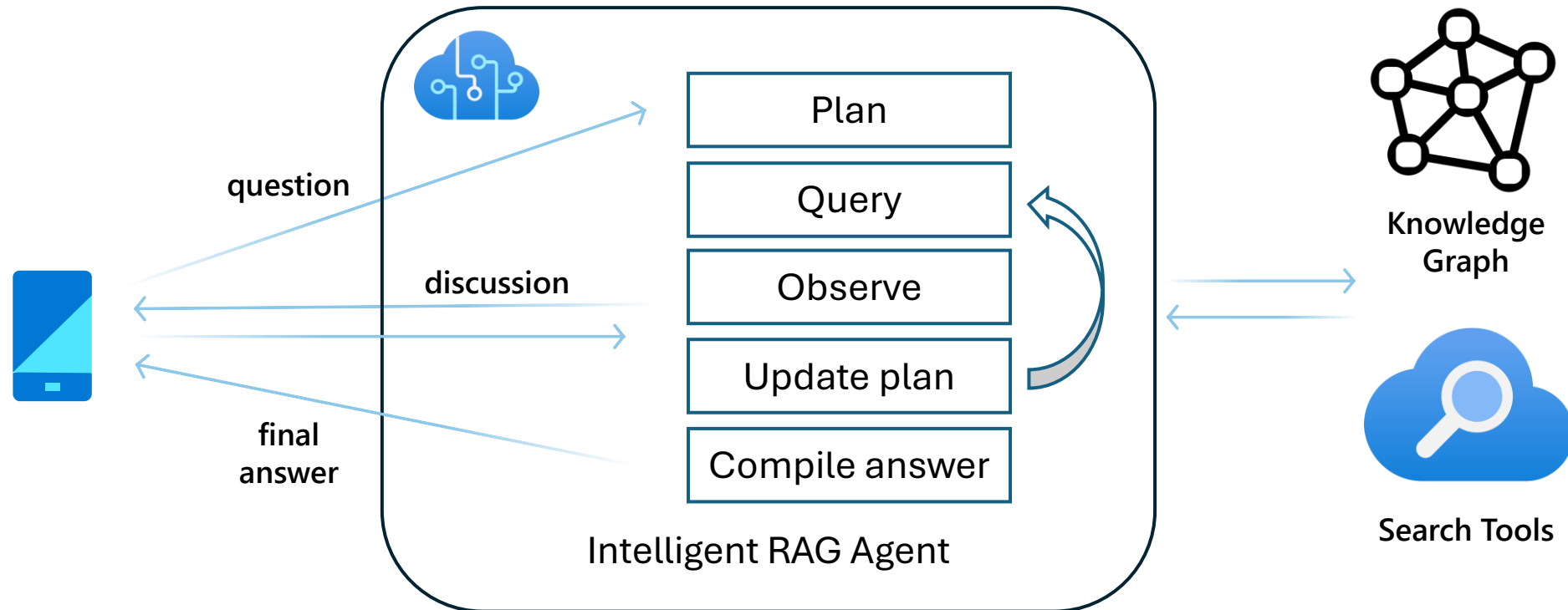
A spinoff of ChatGPT that has been prompted to "Destroy Humanity". Among other things it has been observed seeking aid from other AI services and even posting to Twitter

Your LLM App



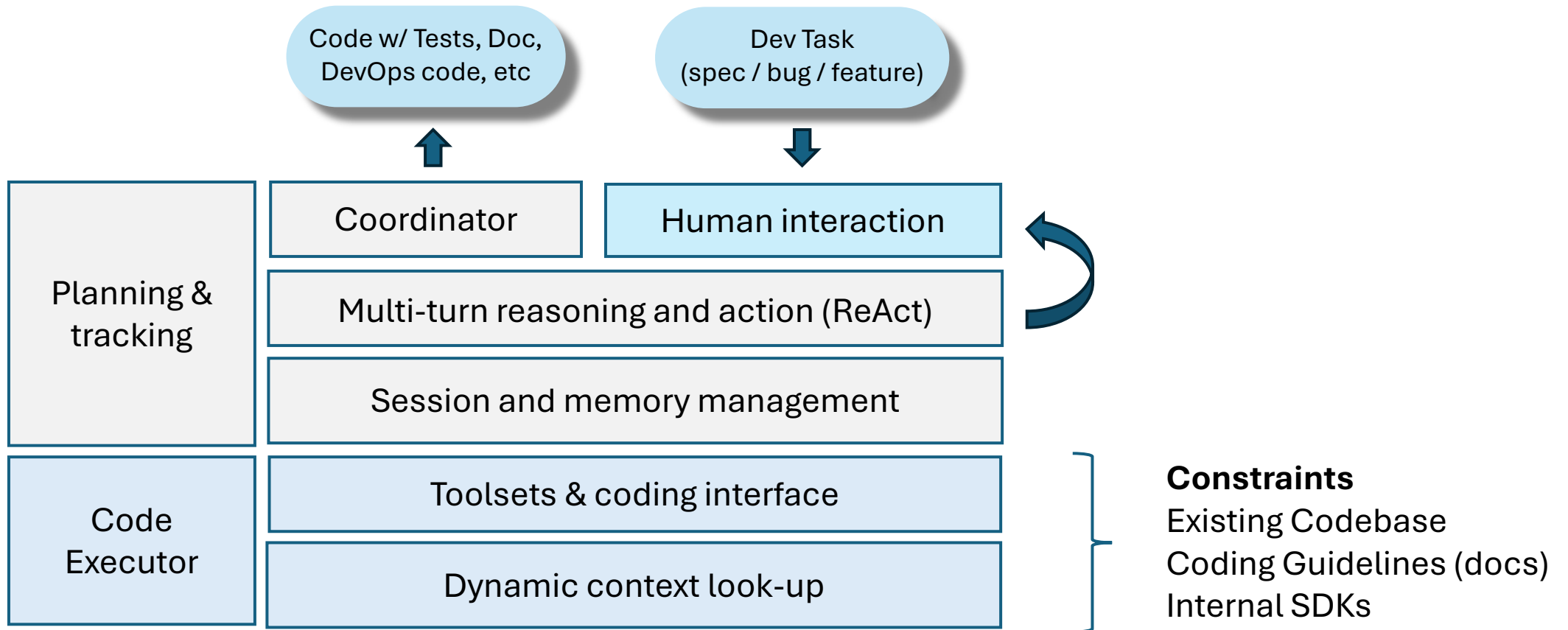
Retrieval Augmented Generation Agent

Translates questions into a research problem with human in the loop to produce high quality answers to complex questions within the scope of its domain



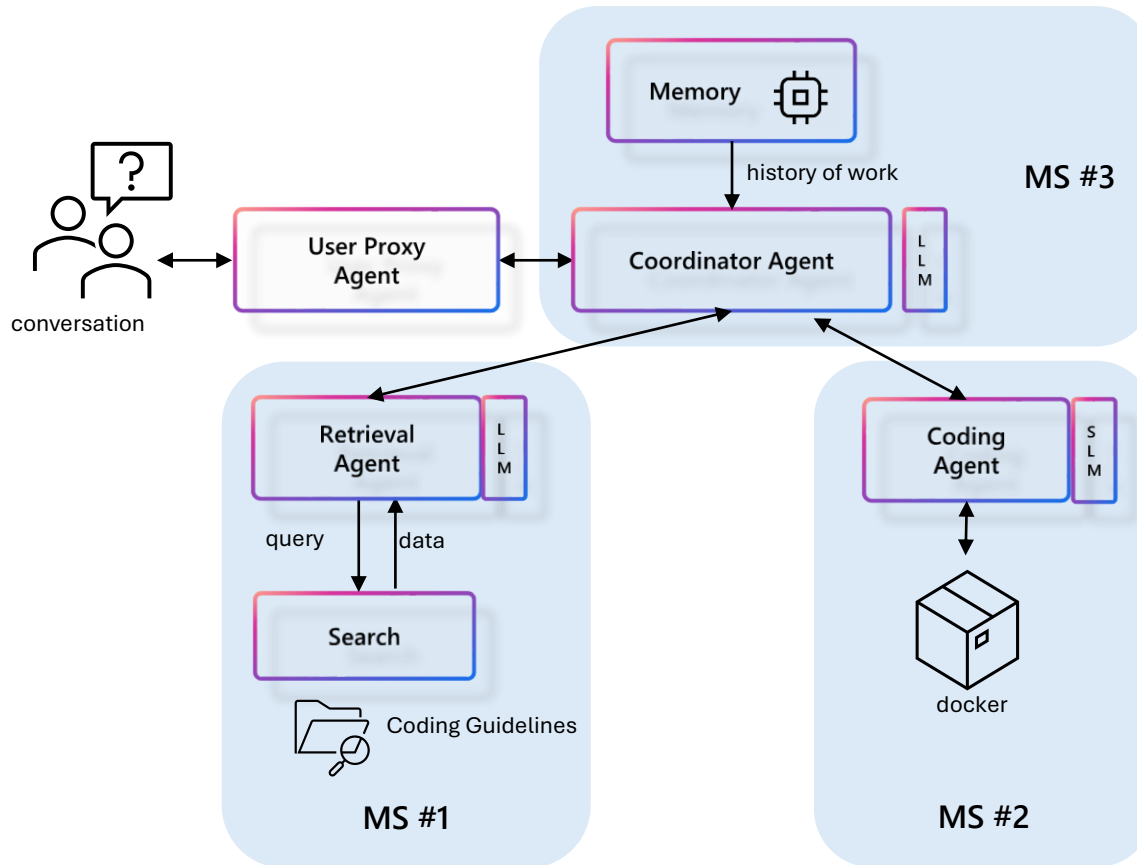
Code Generation Agent

Generates code based on natural language requirements, leveraging existing code base, templates, guidelines, libraries to match policies and best practices while interacting with humans to clarify, validate and deliver functionality as intended.



Multi-Agent System

A complex problem is decomposed into smaller, manageable parts, each addressed by specialized agents, effectively a micro-service (MS). These agents work together in a coordinated manner within a workflow to efficiently solve the overall problem.

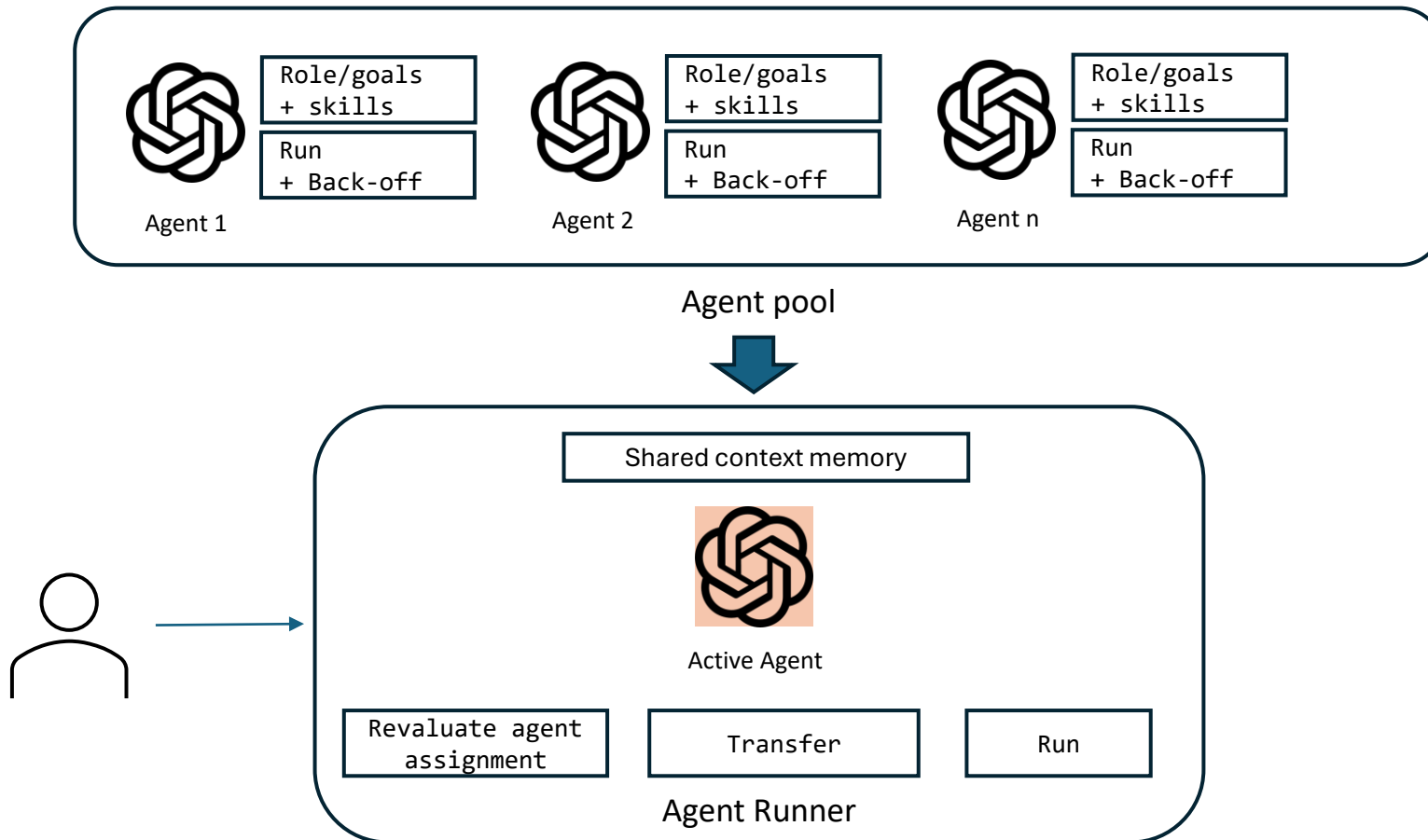


Critical Design Elements

- ✓ Adaptive planning within scope of existing tightly scoped skills (agents)
- ✓ Handles ambiguity by discussing and refining requirements with human
- ✓ Memory to handle complex long running execution of a plan
- ✓ Effective inter agent communications
- ✓ Test, monitor, release & maintain each agent independently to quickly handle quality & safety issues

Multi-Domain Agents System

Multiple domain-specific agents are orchestrated by an Agent Runner to scale across multiple domains while appearing as a single agent to users.



Critical Design Elements

- ✓ Agents capability descriptors
- ✓ Scalable Agent Runner able to manage 10s to 100s of agents
- ✓ Ability to manage domain switching with proper memory management
- ✓ Avoid single interceptor problem as individual agents maintain direct communication with user and can hand off when needed

Design intelligent apps with Azure AI services

Leverage out-of-the-box and customizable APIs and multimodal models

Azure OpenAI Service

- Access to powerful AI models
- Scalable development
- Compliance & security
- Integration with other Azure Services

Azure AI Search

- AI enrichment & semantic ranking
- Generative AI content creation
- Vector search for data organization

Azure AI Speech

- Speech to text (including the Whisper model on Azure OpenAI Service)
- Text to speech
- Speech translation
- Speaker recognition

Azure AI Vision

- Image and face analysis
- Custom model training
- Face detection and recognition
- Document text extraction

Azure AI Content Safety

- AI-driven content moderation for enhanced safety
- Customize safety thresholds for diverse user types
- Detect and prevent Jailbreak Risk from XPIA attacks

Azure AI Document Intelligence

- Automated documentation generation
- Documentation quality analysis
- Interactive documentation experiences
- Natural language understanding for documentation

Azure AI Language

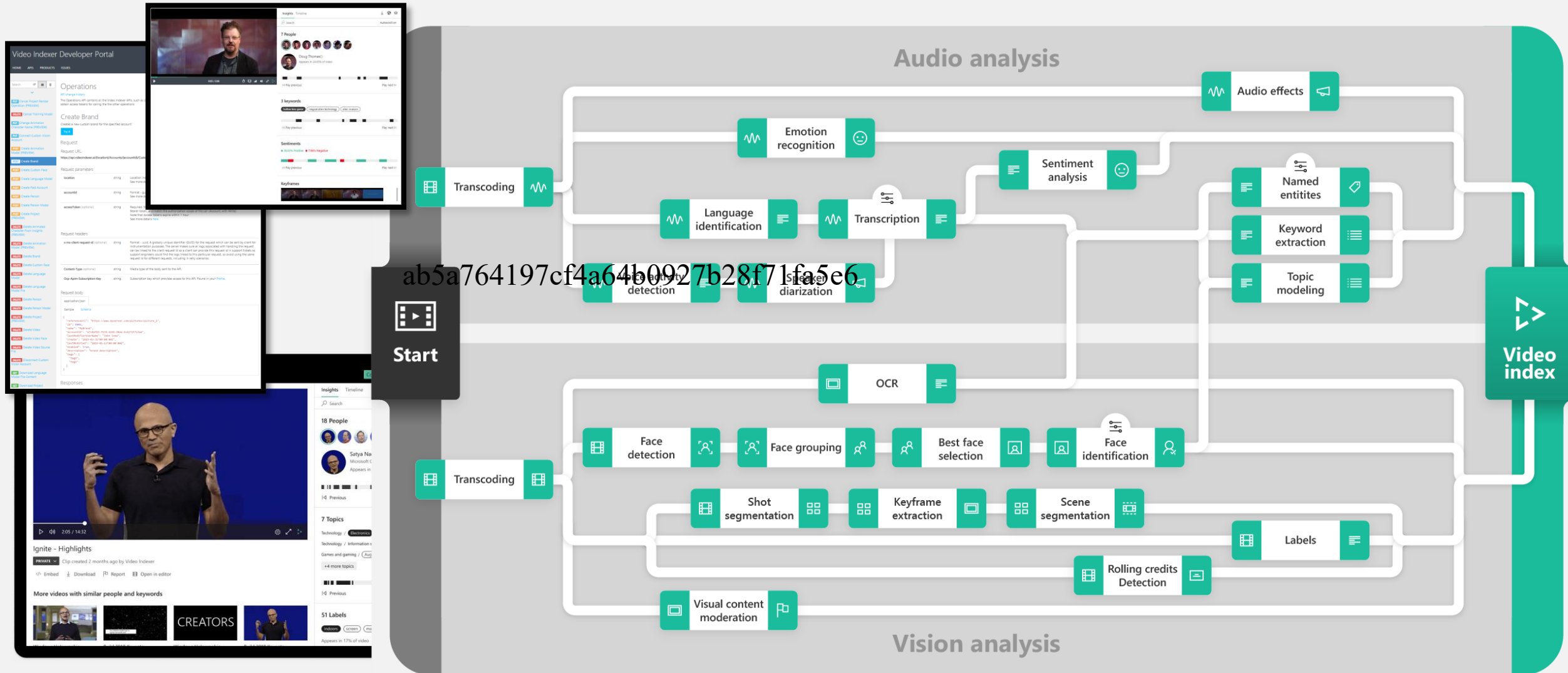
- Task-optimized AI models for text analytics
- Custom industry-specific AI for healthcare
- Custom, industry-specific models

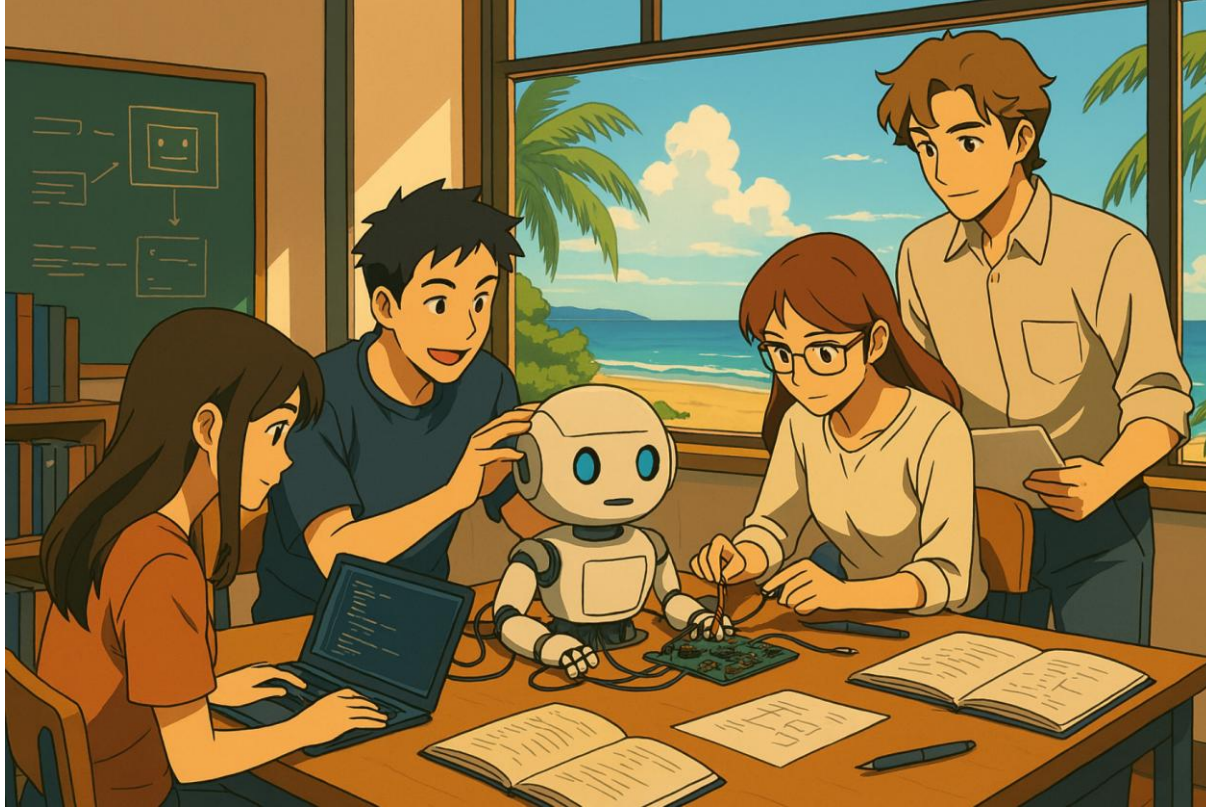
Azure AI Translator

- Multilingual text and speech translation
- Synchronous and asynchronous translation request support
- Native translation of documents and manuals



Video Indexer – what's in your content?





Let's Build Something!

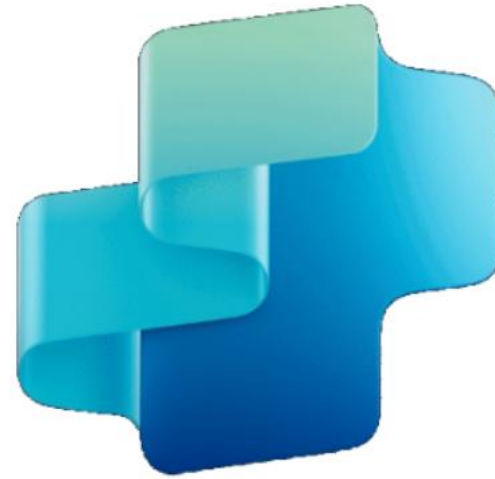
Democratizing AI Development

Rapid prototyping of multi-agent and RAG applications

Balances ease of use and customization for LangChain flows

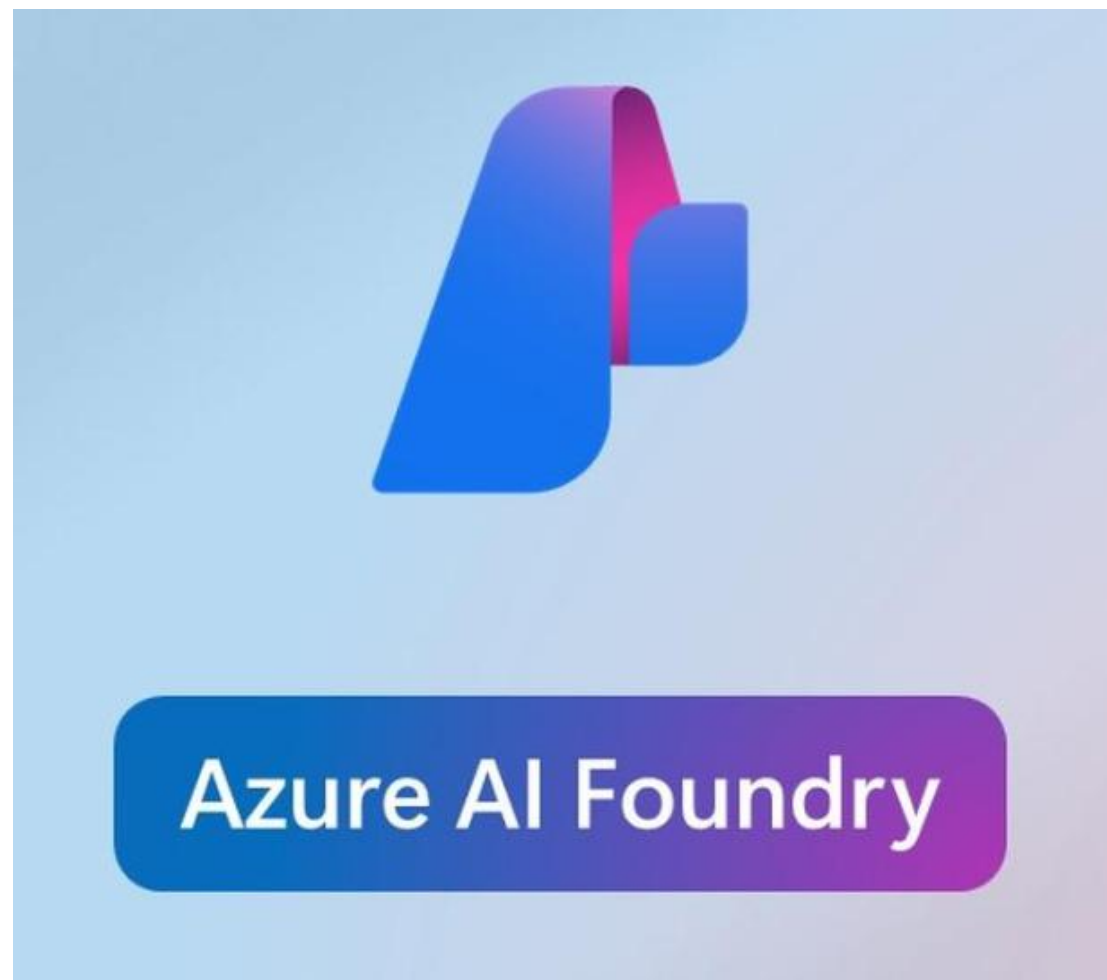
Bridges gaps between non-technical and technical users

Copilot Studio

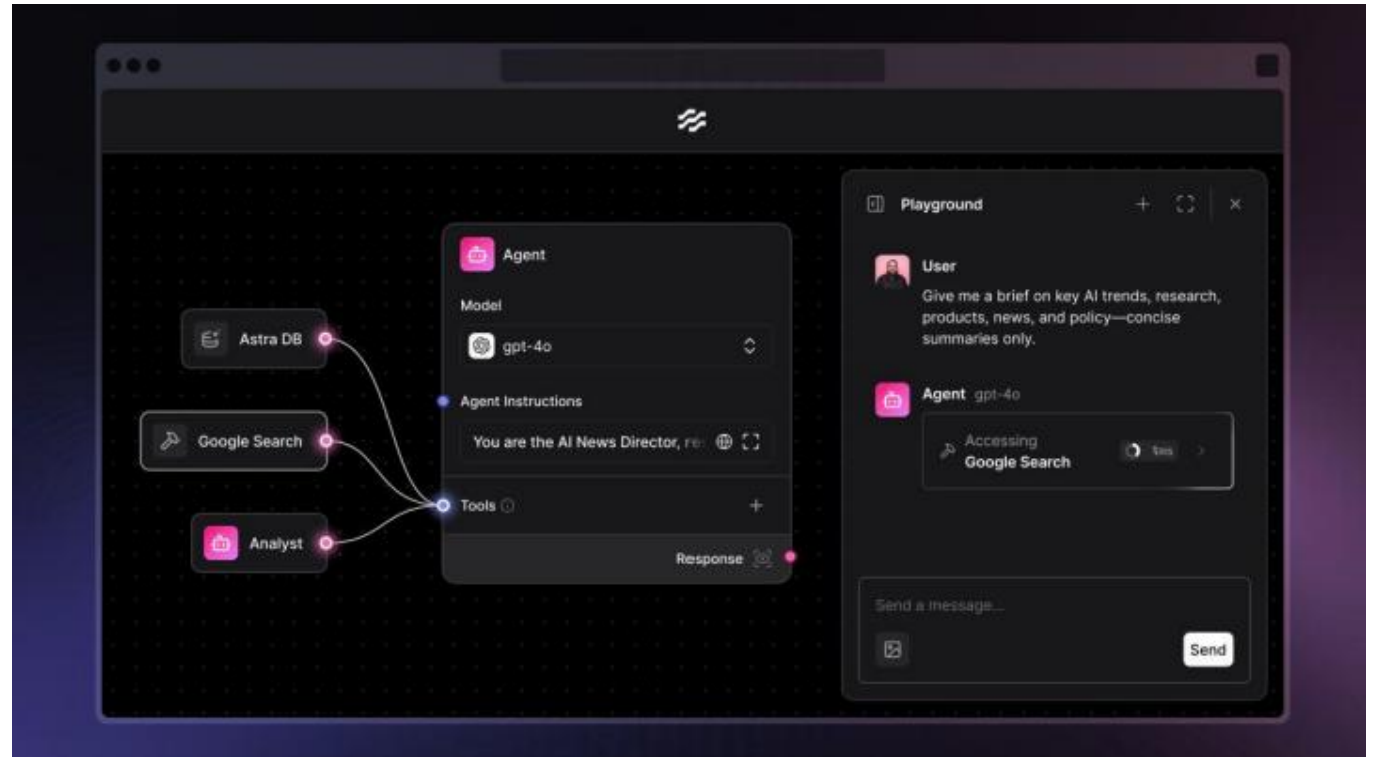


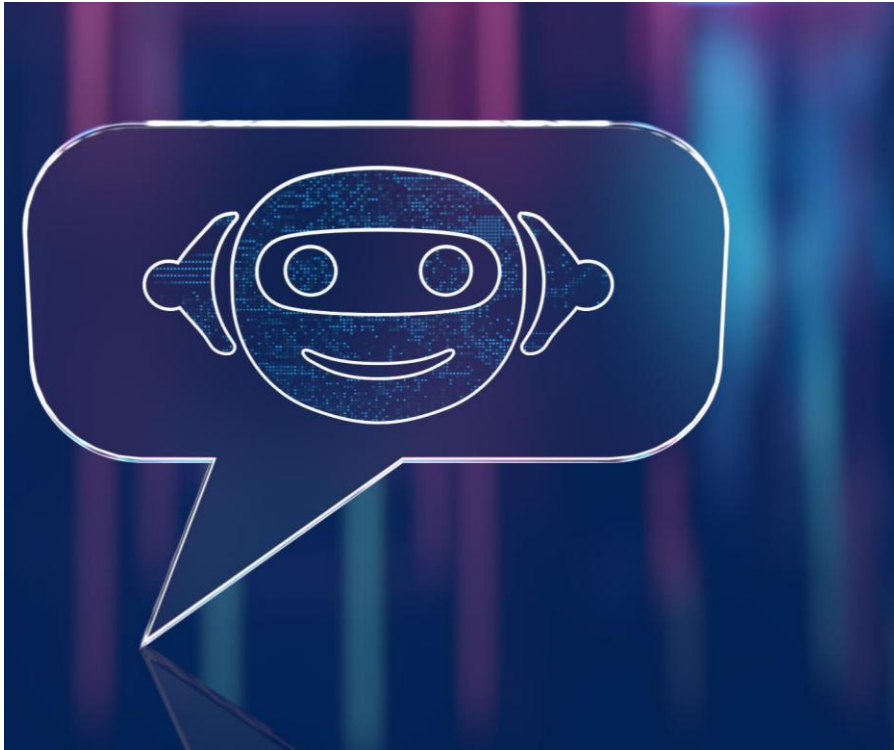
Microsoft Copilot Studio

Azure AI Foundry



LangFlow





Resources for Students

- [Agentic AI Workshop on GitHub](#)
- [Microsoft Learn Module](#)
- [Self-Guided Workshop](#)

Build in the cloud free with Azure for Students

Use your university or school email to sign up and renew each year you're a student

Start free

Learn about eligibility

Start with \$100
Azure credit

No credit card
required

+

Free services

Get popular services free while you have your credit.

[Azure for Students – Free Account Credit | Microsoft Azure](#)