

Current Landscape and Potential of Generative AI for Government, Academe, and Industry

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Content

- Generative AI background
- Applications for you and your organization
- Challenges and responsible AI
- Future - prospects and trends
- More learning resources

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AI is everywhere

ENR BUSINESS

Real estate agents say they can't imagine working without ChatGPT now

By Samantha Murphy-Koby, ENR Business
Updated 4:06 PM CST, Sat, January 20, 2024

AI's Transformative Impact on Scientific Research

Kirish Choudhary - Journalist



FORBES | INNOVATION

Why AI's Creative Intelligence Will Change Advertising In 2024

Ian Liddicoat, Forbes Councils Member
Forbes Technology Council, COUNCIL POST | Membership (Fee-Based)

Forbes

AI Productivity Gains Are Not Limited To Big Tech

REUTERS

Bar exam score shows AI can keep up with 'human lawyers,' researchers say

By Kate Stone
March 15, 2023 11:06 AM EDT, Updated 11:06 AM EDT

make it

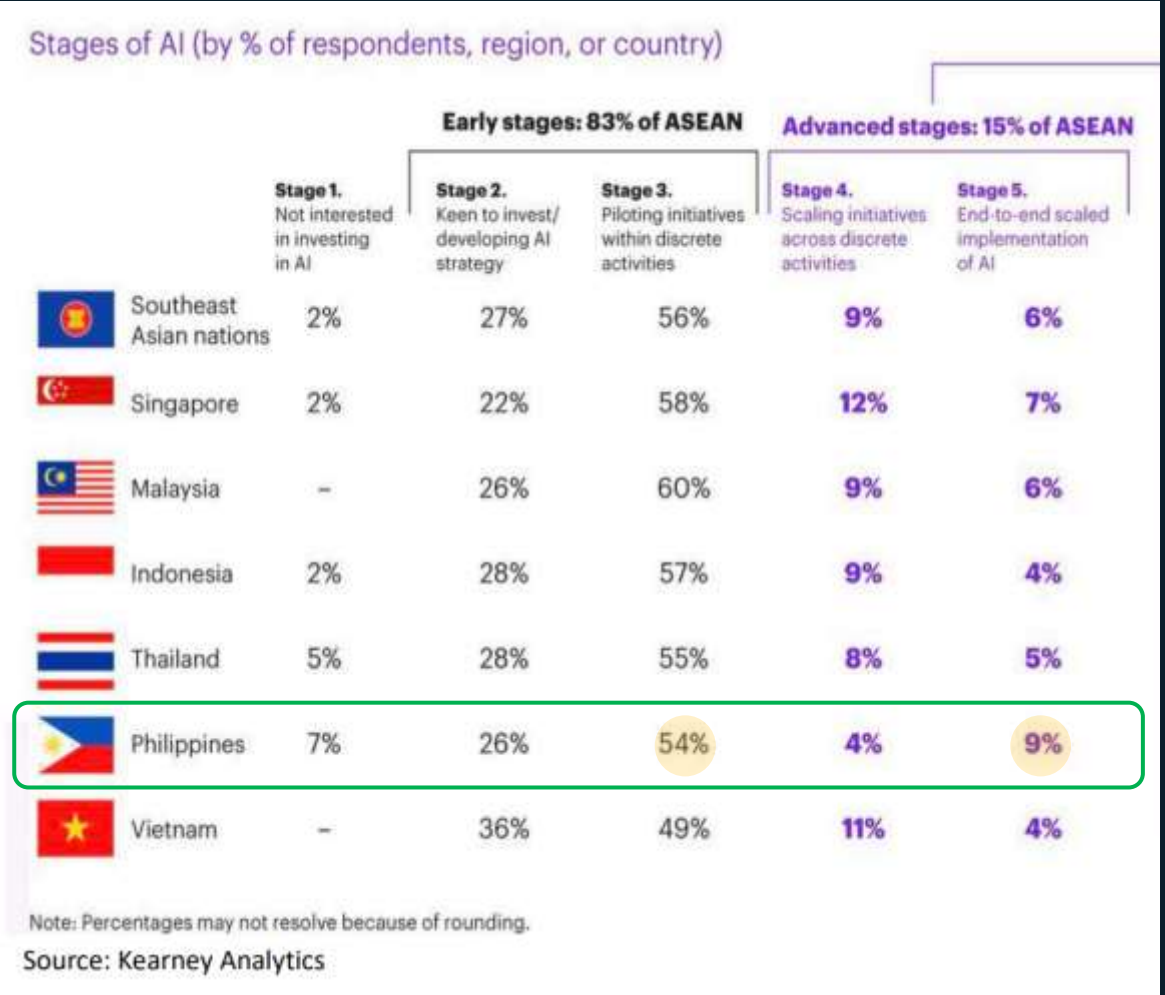
A.I. is making some common side hustles more lucrative—these can pay up to \$100 per hour

By Jenelle B. Smith
March 15, 2023 10:00 AM EDT, Updated 10:00 AM EDT

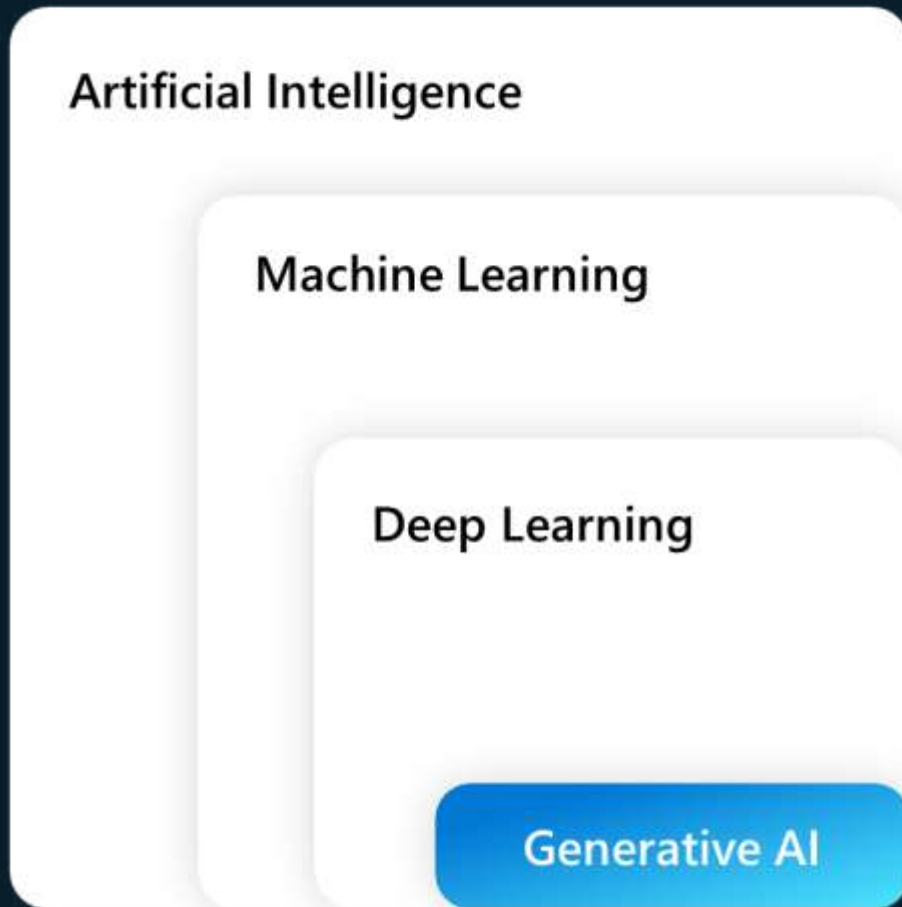
TELECOM

BankThink AI could make underwriting a collaboration between bank and borrower

By Samantha Murphy-Koby
September 20, 2023 10:00 AM EDT, Updated 10:00 AM EDT



<https://innovate.dti.gov.ph/wp-content/uploads/2020/07/AI-Roadmap-Usec-Aldaba.pdf>



1950s

Artificial Intelligence

the field of computer science that seeks to create intelligent machines that can replicate or exceed human intelligence.

1959

Machine Learning

subset of AI that enables machines to learn from existing data and improve upon that data to make decisions or predictions.

2017

Deep Learning

a machine learning technique in which layers of neural networks are used to process data and make decisions.

2021

Generative AI

create new written, visual, and auditory content given prompts or existing data.

Generative AI is a form of artificial intelligence in which models are trained to generate new original content (*like text, image, code output and more*) based on natural language input.



What's a good place to stay for my upcoming business trip to New York?

Choose a conversation style

- More Creative
- More Balanced
- More Precise

Give me three ideas for a healthy breakfast including peppers.

✓ Searching for: **healthy breakfast recipes with peppers**

✓ Generating answers for you...

Your personal and company data are protected in this chat

Hi, this is Bing. I'm glad you're interested in healthy breakfast ideas with peppers. Peppers are a great source of vitamin C, antioxidants, and fiber, and they can add a lot of flavor and color to your morning meal. Here are three recipes that you might like to try:

- **Muffin-Tin Omelets with Feta & Peppers**¹: These are baked mini omelets that you can make ahead and reheat in the microwave. They are filled with cheese, spinach, olives, and a delicious mixture of onion, red bell pepper, and oregano. They are gluten-free, low-carb, and high-protein.
- **Breakfast Bell Peppers**²: These are whole bell peppers that are stuffed with eggs, bacon, and cheese, and baked until the eggs are set. They are keto-friendly, low-sugar, and high-protein. You can use any color of bell pepper you like, and customize the filling with your favorite herbs and spices.
- **3-Ingredient Bell Pepper & Cheese Egg Cups**³: These are simple and easy egg cups that you can make in a muffin tin. They only require bell peppers, eggs, and cheese. You can use any kind of cheese you prefer, such as cheddar, mozzarella, or feta. They are gluten-free, low-carb, and high-protein.

I hope you enjoy these healthy breakfast recipes with peppers. Have a great day! 😊

Learn more: [1. eatingwell.com](#) [2. tasty.co](#) [3. eatingwell.com](#) 1 of 30

- What are some other healthy breakfast ideas?
- How do I choose the best peppers for cooking?
- Can you suggest a vegan recipe with peppers?

Your personal and company data are protected in this chat

New topic

Input area with keyboard and microphone icons

- <https://www.bing.com/>
- [Bing Chat Enterprise](#)



a human pilot wearing aviator sunglasses holding the yoke of an airplane. An android is seated behind the pilot.

Bing Image Creator | 1024 x 1024 jpg | 15 hrs ago

Share

Save

Download

Customize

[Bing Image Creator \(microsoft.com\)](https://www.microsoft.com/bing-image-creator)

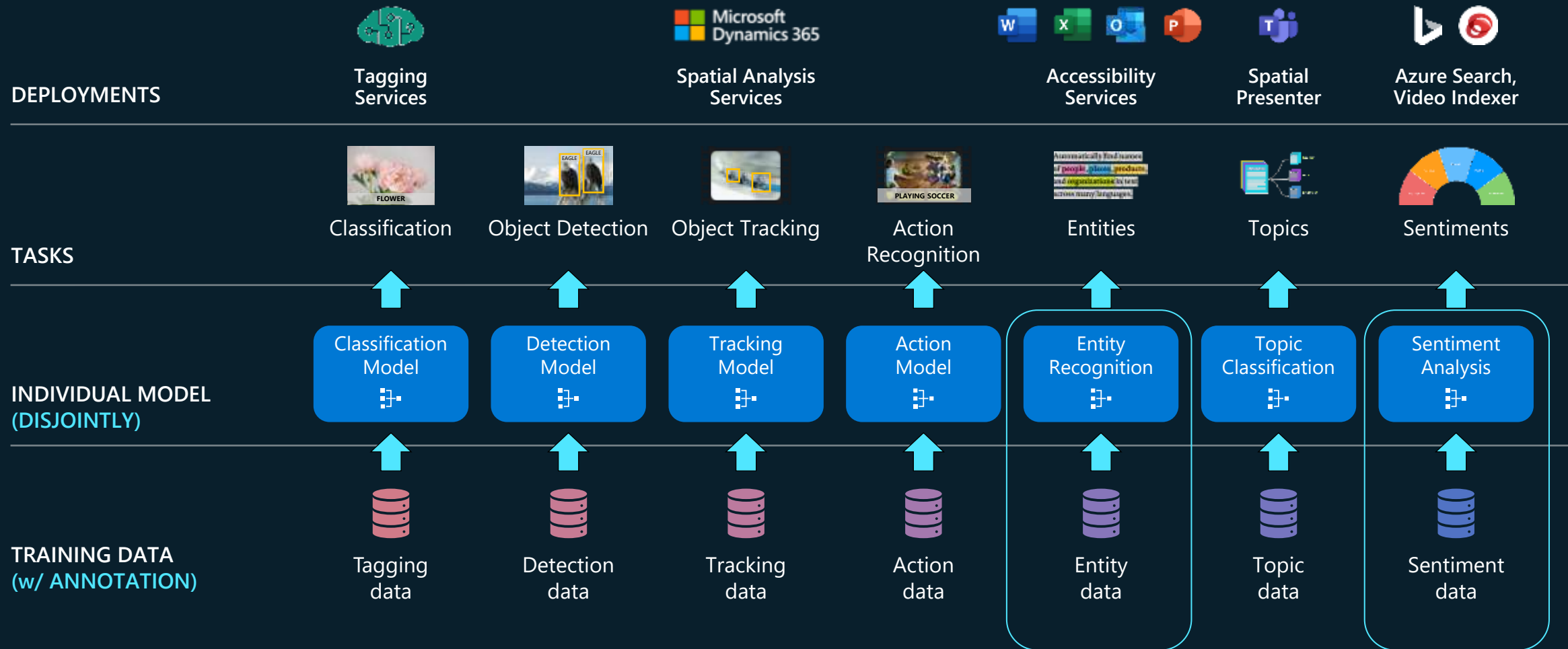
Large Language Models (LLM)

Generative Applications are powered by large language models (LLMs), which are a specialized type of machine learning model that you can use to perform natural language processing (NLP) tasks, including:

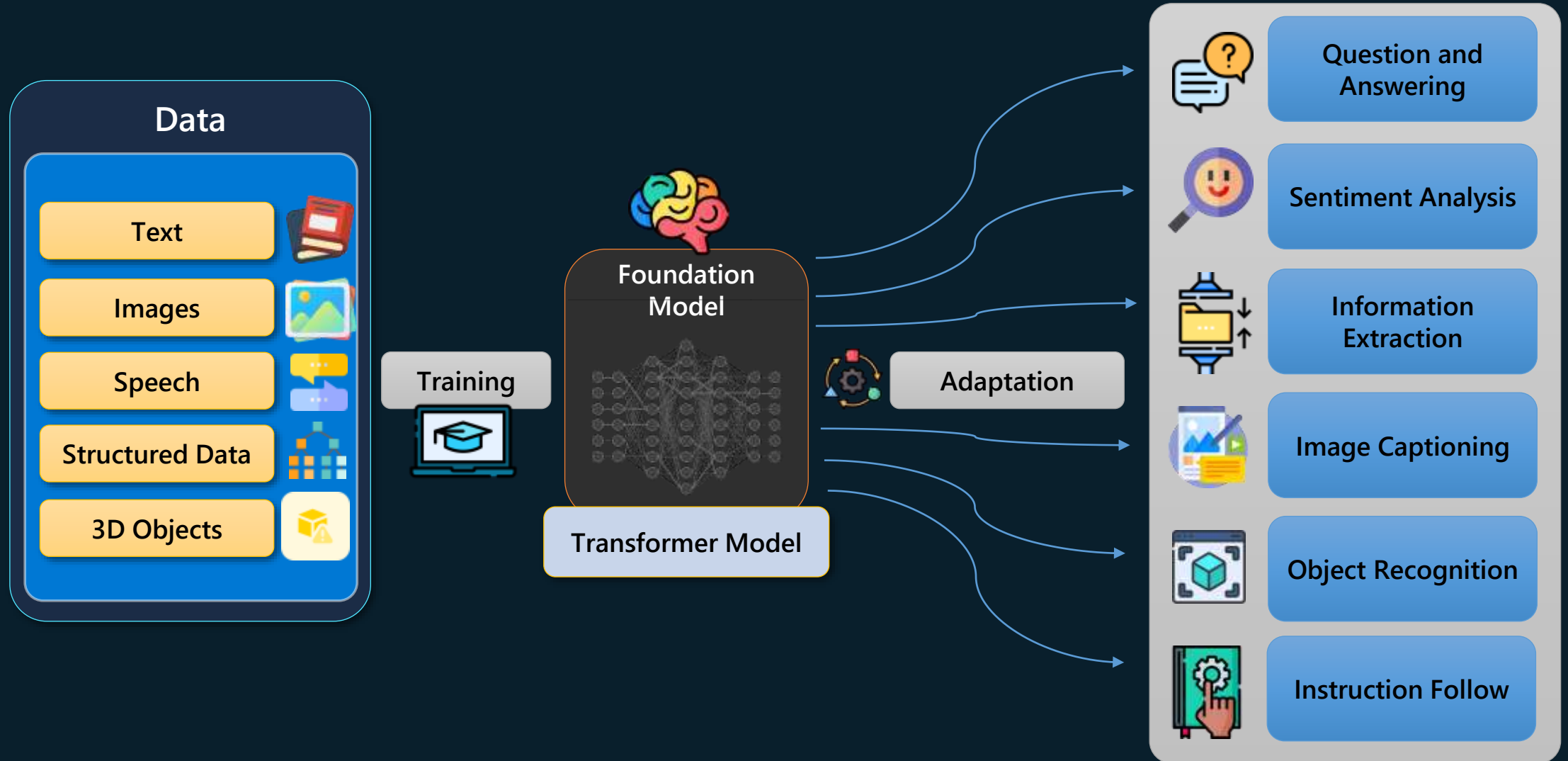
- Determining sentiment or otherwise classifying natural language text.
- Summarizing text.
- Comparing multiple text sources for semantic similarity.
- Generating new natural language.

Traditional model development

High cost and slow deployment—each service is trained disjointly



Foundation Models



Prompt Engineering

Plays a crucial role in communicating and directing the behavior and achieving the desired output of LLMs AI.

Prompt

```
Please give me the history of humans.
```

This prompt produces a long response or report

Prompt

```
Please give me the history of humans in 3 sentences.
```

This prompt produces a concise response

Prompt Engineering: a new career

Because of the amount of control that exists, prompt engineering is a **critical skill for anyone working with LLM AI models**. It's also a skill that's **in high demand** as more organizations adopt LLM AI models to automate tasks and improve productivity. A good prompt engineer can help organizations **get the most out of their LLM AI models** by designing prompts that produce the desired outputs.

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Employees are ready to embrace AI

64%

Employees lack time & energy to do their job

3.5X

More likely to struggle with strategic thinking

70%

Employees willing to delegate work to AI

60%

of leaders say a lack of innovation is a concern

What every employee wants from AI



Finding info
and answers



Summarizing meetings
and action items



Creative
work



Analytical work



Planning their day



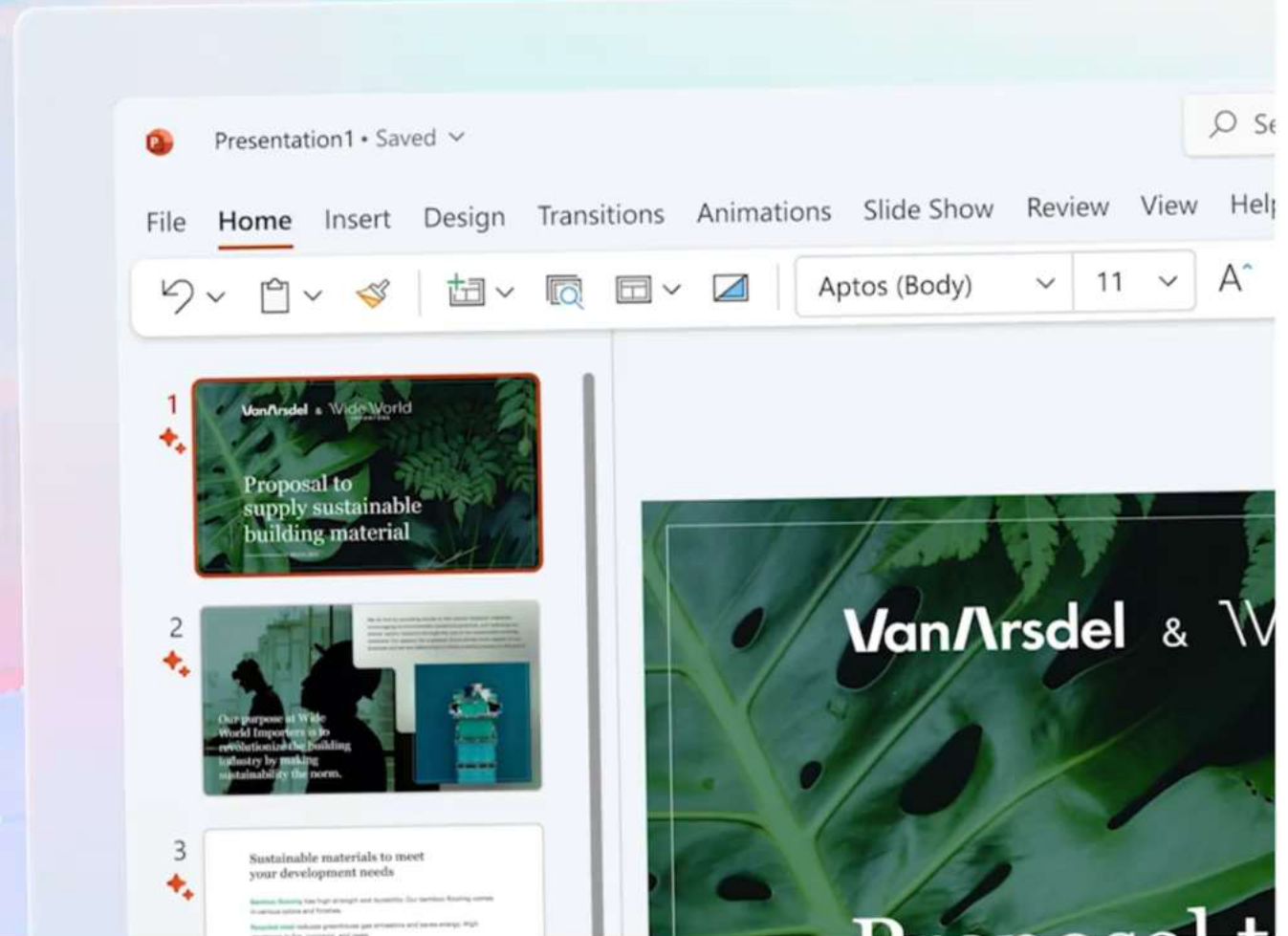
Admin tasks

Generative AI as your Copilot



MICROSOFT 365

Copilot in PowerPoint





Search



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



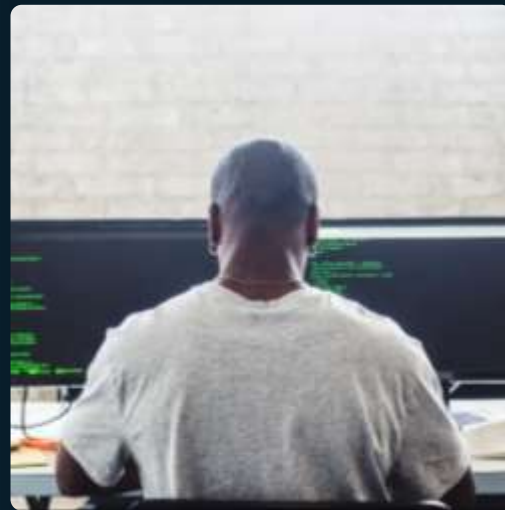
Empowering everyone to achieve more



Every employee



Functional
business roles



Security & IT
professional



Developer & data
professional

An AI **copilot** unlocks creativity, unleash productivity, and uplevel skills of people

Microsoft 365 Copilot

Works alongside
you in the apps you
use every day

[Learn more](#)

Dynamics 365 Copilot

Turbocharge your
workforce with a
copilot for every
job role

[Learn more](#)

Copilot in Power Platform

Imagine it, describe
it, and Power
Platform builds it

[Learn more](#)

Microsoft Security Copilot

Defend at machine
speed with
Microsoft Security
Copilot

[Learn more](#)

GitHub Copilot

Increase developer
productivity to
accelerate
innovation

[Learn more](#)

What can AI do for *you*?

Productivity &
job satisfaction



“GitHub Copilot gets them 98% of the way there, and they only need to make small changes to finish it up.”

Cost savings &
efficiency




“It’s allowed us to optimize the way we work. The team is now able to focus on high-value tasks.”

Cybersecurity

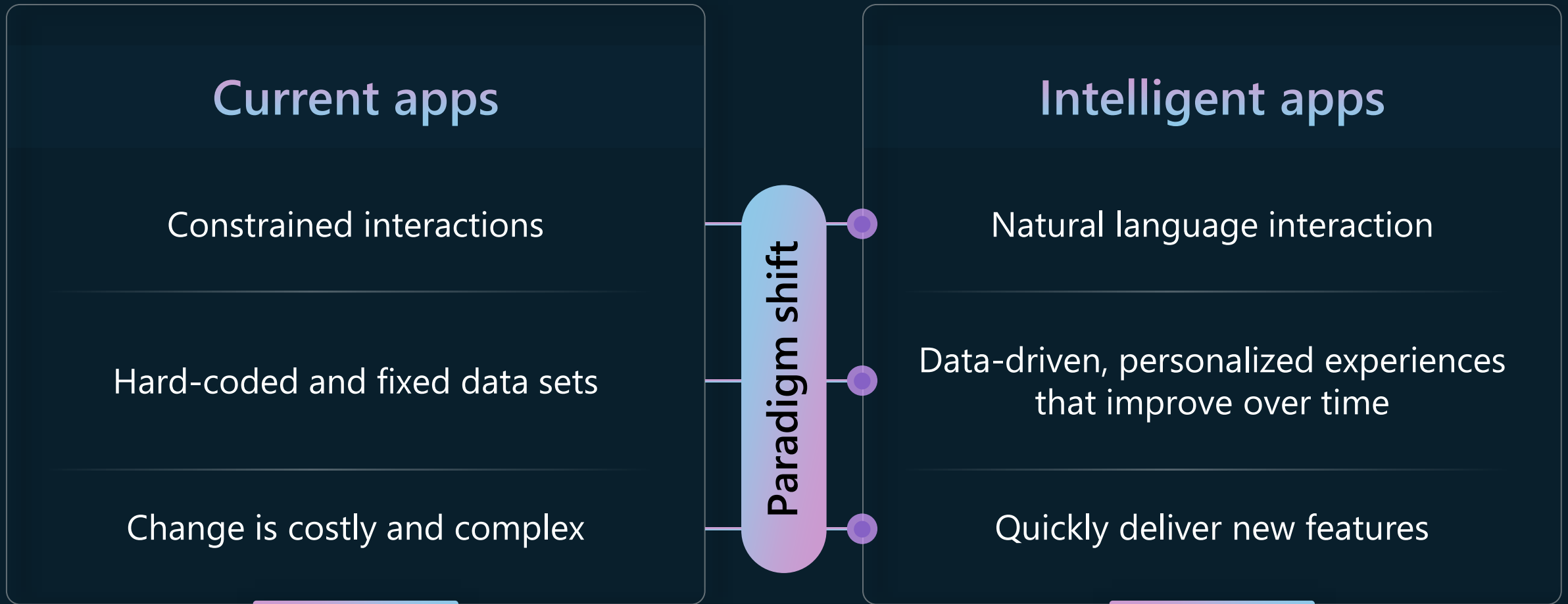


“Our first ambition at Swift is to build a foundation model for anomaly detection that underpins the detection and prevention of fraud.”

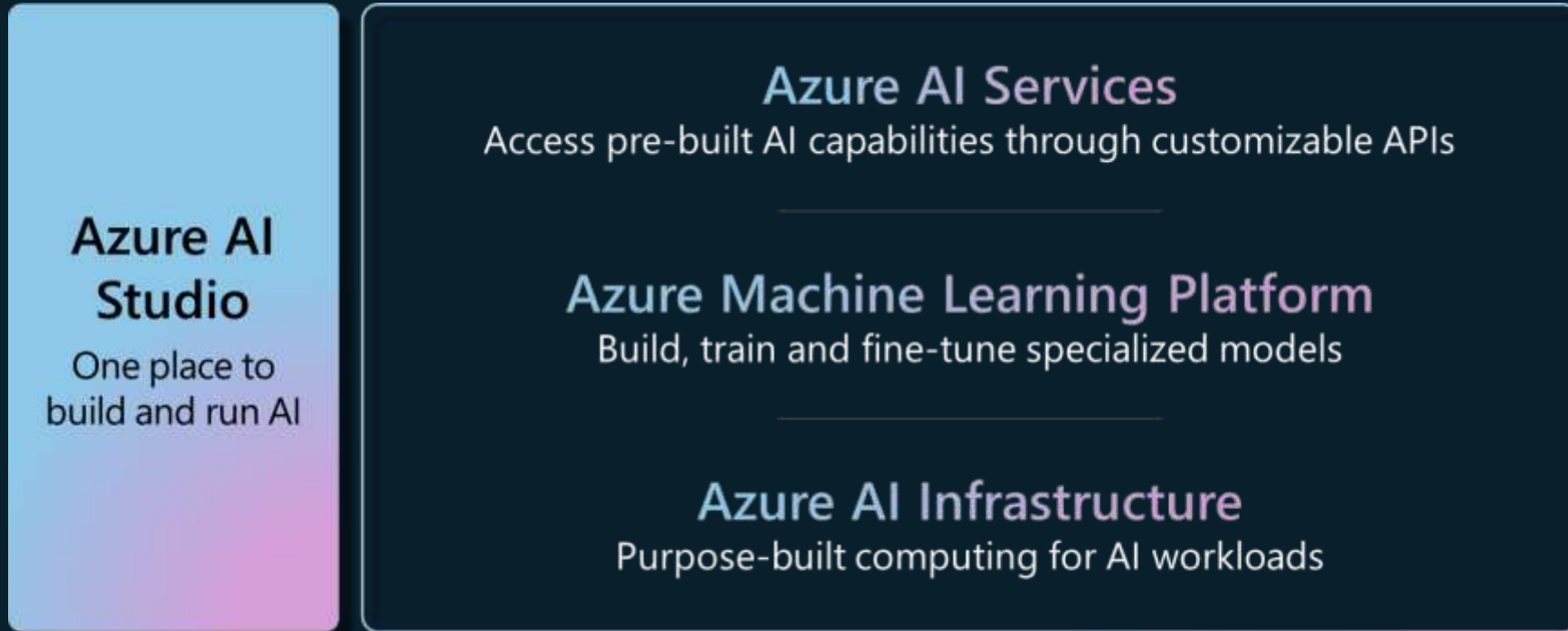
The potential of generative AI is clear...
the question is what will you build?



Generative AI makes apps truly intelligent



Meet the Azure AI platform



<https://learn.microsoft.com/en-us/azure/ai-services/openai/overview>

Microsoft
Security Copilot

Bing Chat

Microsoft 365
Copilot

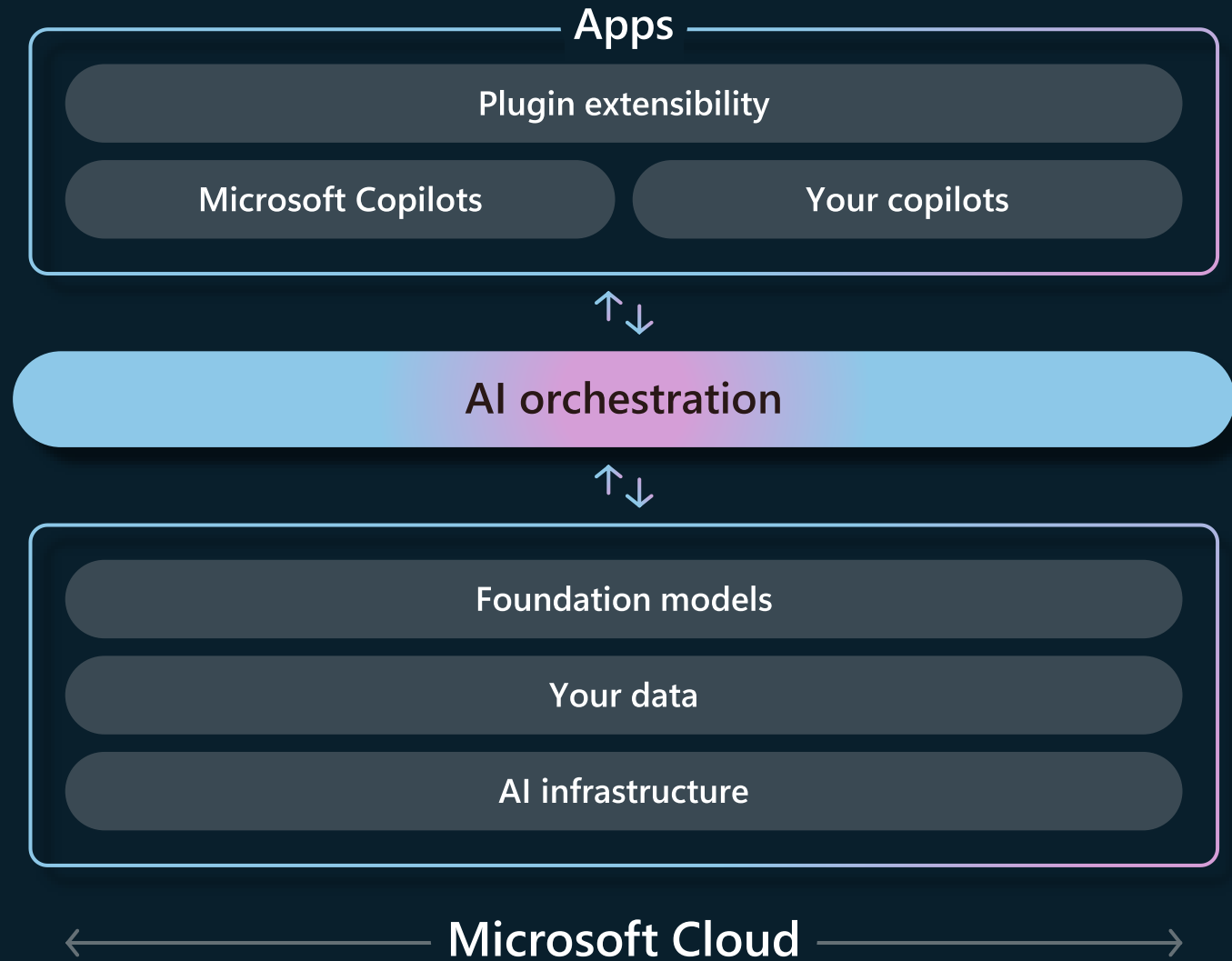
Power Platform
Copilot

Dynamics 365
Copilot

Windows
Copilot

Microsoft runs on **Azure AI**

Copilot stack



Top use cases for

Generative AI



Enterprise ChatGPT
Better knowledge mining



Intelligent Call Centers
Better analytics and service



Build your own copilot
Your data. Your apps. Your people



Content Generation
New products and services



Hyper-personalization
Better sales and marketing

Generative AI will reinvent every industry

Personalized Education

Adaptive content
AI tutors

Safe and Efficient Financial Services

Efficient customer service or loan approval
Better compliance through efficient screening, laundering prediction, training and education
Turn data trends into risk assessments

Sustainable Retail

Generative product design and style transfers
Tailor inventory and pricing based on demand
Authentic virtual try-ons and less returns

Efficient Manufacturing

Optimize inventory tracing in the supply chain
Amplify humans with collaborative cobots
Navigate the inner complexity of machines

Personal Healthcare

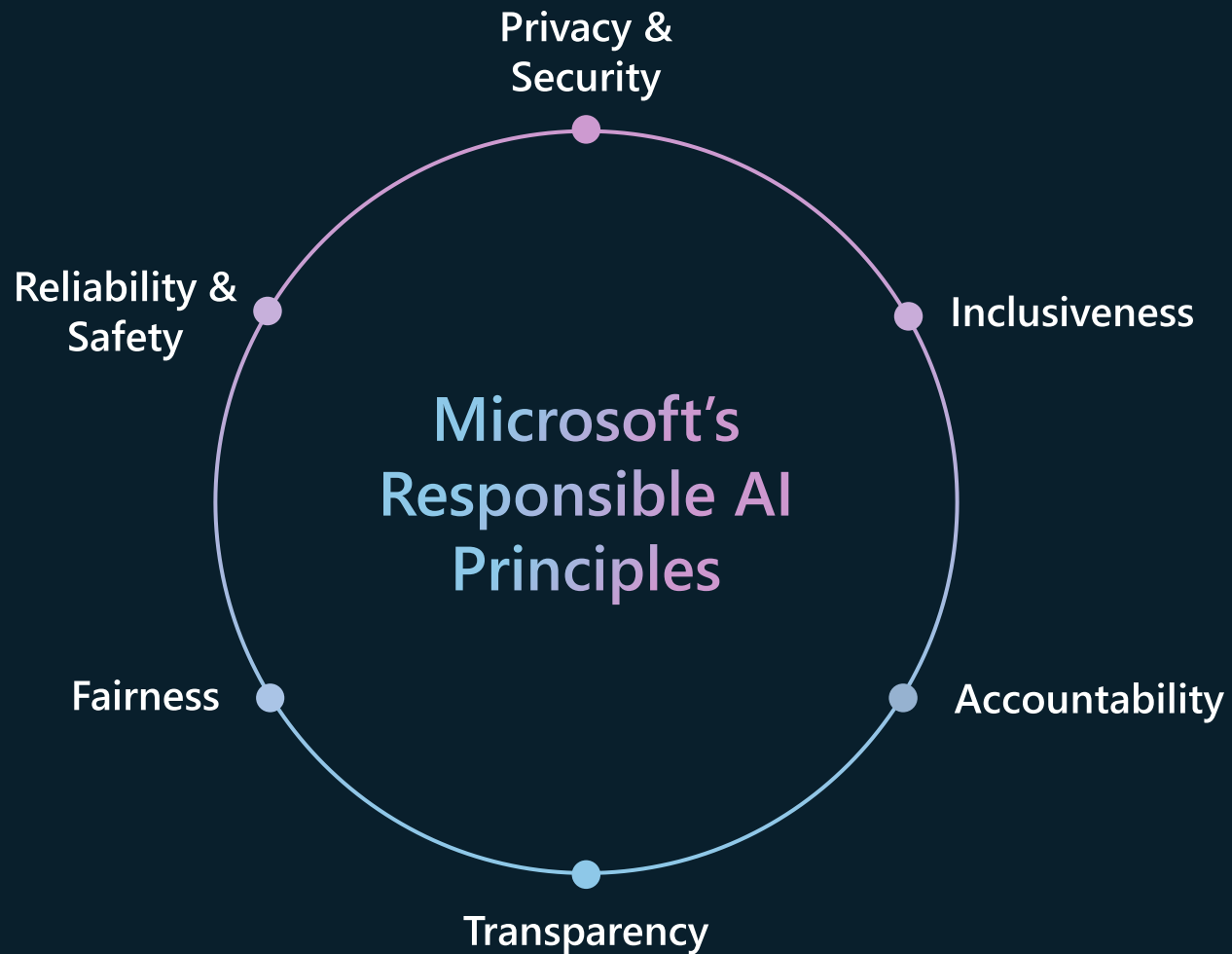
More effective patient treatment plans
Accurate drug development and discovery
Precise medical imaging and diagnoses

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Some Challenges

1. High Computational Costs
2. Hallucination
3. Ethical concerns



Building blocks to enact principles



Tools and processes



Training and practices



Rules



Governance

Microsoft Cloud

AI you can trust

Your data is your data

Your data is not used to train the OpenAI foundation models without permission

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

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The opportunity for the Philippines

Understanding the potential impacts on industries, jobs, and skills will allow policymakers, business leaders, and workers to better prepare for, and take advantage of the capabilities of generative AI.



Generative AI can unlock USD79.3 billion in productive capacity in the Philippines, with implementation by the Manufacturing and Wholesale and Retail Trade sectors likely contributing more than half (54%) of the potential economy-wide gains.

The Philippines's Manufacturing and Wholesale and Retail Trade sectors are potentially the biggest contributors to the economy-wide gains from generative AI, largely because they comprise a large share of the local workforce and account for high labor productivity. Furthermore, the workers within the Wholesale and Retail Trade and Agriculture sectors are responsible for a large share of total work activities which could be transformed by generative AI given that they comprise a large share of the local workforce, which means that leveraging the benefit of generative AI in these sectors could transform the work experience for a large number of workers in the Philippines.



Generative AI will change the focus within jobs, rather than replace them entirely – and there is potential for most workers to use generative AI to some degree in their work.

While only a small share (1%) of the Philippines workforce would see generative AI used in more than 20% of their work, more than half (56%) of workers in the Philippines will potentially use generative AI for between 5-20% of their regular work activities.

Three channels of change

There are three main channels through which generative AI will change the processes of production within an economy and reprioritize the types of tasks undertaken, and skills needed in the workforce.

Unleashing Creativity: Generative AI can contribute to the creative process by reducing the time and cost involved in generating new ideas and producing innovative outputs. **The Philippine Creative Industries Development Act** provides for the development and promotion of the Philippine creative industry, including through projects to “Professionalize Filipino Online Creative Freelancers”. Generative AI can augment the existing capabilities of these freelancers in their creative process.

Accelerating Discovery: The use of generative AI can help accelerate the process of scientific research and discovery by reducing the cost of research and supporting better learning outcomes. The **Department of Education** since 2021 has been exploring new learning methods by leveraging AI tools to make learning more engaging and effective. Generative AI could be used to improve access to quality education and skill development opportunities, as well as create personalized learning experiences which can be effective in improving student learning outcomes.³ This would result in a more inclusive and equitable education environment.

Enhancing Efficiency: Generative AI can play a role in enhancing workplace efficiency by supporting tasks requiring parsing of big data sets and information sources. The use of generative AI can also help improve the usability of this data and information, making it more interpretable and useful for decision-making. A recent study of customer support agents in the Philippines found that those given access to generative AI tools were able to successfully solve client problems more quickly—with productivity gains of around 14%.⁴ There is an opportunity for the Philippines government to support the **Information Technology-Business Process Management (IT-BPM) sector** as a first-mover to take advantage of the potential efficiency gains from generative AI, as well as to equip businesses within the sector to capture new market opportunities.

LinkedIn researchers identified a list of over 500 skills likely to be affected by GAI technologies, including these skills that are among the most frequently featured by members:

Business and industry: Financial Reporting, Email Marketing, Data Analysis

Communication and media: Writing, Editing, Documentation, Translation, Content Creation

Engineering: Software Development Tools, Programming Languages, Data Science

People: Time Management Tools



Occupation	Share of skills potentially augmentable by GAI	Top skills potentially augmentable by GAI: Top skills that could be partly performed by GAI-assisted software	Top people skills and specialized skills: Top skills that need to be performed by humans, and that complement skills potentially augmented by GAI	Share of people skills and specialized skills
Teacher	45%	Lesson Planning, Curriculum Development, Teacher Training, Literacy, Tutoring	Classroom Management, Differentiated Instruction, Elementary Education, Educational Technology, Special Education	53%
Software Engineer	96%	Jenkins, Docker Products, AngularJS, TypeScript, Git	Jira, Agile Methodologies, Microsoft Azure	3%
Nurse	6%	Patient Care, Quality Patient Care, Patient Assessment	Advanced Cardiac Life Support (ACLS), Nursing, Basic Life Support (BLS), Acute Care, Critical Care Nursing	90%
Salesperson	59%	Cold Calling, Retail Sales, Outside Sales, Sales Processes, Inside Sales	Stocking, Hospital Sales, Cardiology, Endocrinology, Medical Sales	15%
Project Manager	28%	Scrum, Submittals, Software Development Life Cycle (SDLC), Agile Methodologies, Agile Project Management	Construction Management, Project Estimation, Pre-Construction, Value Engineering, Change Orders	44%
Customer Service Rep	76%	Phone Etiquette, Typing, Customer Support	Warranties, Food and Beverage Operations, Stocking, Hospitality Service, Dispatching	4%
Driver	9%	Warehouse Operations, Logistics Management, Freight Transportation Planning	Truck Driving, Professional Driving, CDL Class A, CDL, Commercial Driving	88%
Medical Doctor	7%	Medical Research, Cancer, Heart Disease	Medical Education, Internal Medicine, Surgery, General Surgery, Family Medicine	63%
Cashier	59%	Food Service Planning, Merchandising	Stocking, Fast Food, Waiting Tables, Food and Beverage Operations	22%
Childcare Provider	20%	Lesson Planning, Tutoring	Childcare, Working with Children, Babysitting, Child Development, Nannying	76%
Environmental Health Safety Specialist	3%	Risk Assessment, Root Cause Analysis, Geographic Information Systems (GIS)	Environment, Health, and Safety (EHS), Accident Investigation, Occupational Health, Industrial Hygiene, Environmental Compliance	70%
Event Manager	39%	Event Marketing, Hospitality Management, Catering Planning, Virtual Events	Corporate Events, Event Production, Special Events, Meeting Planning, Private Events	44%
Construction Specialist	11%	Construction Drawings, Submittals, Revit	Construction Management, Construction, Flooring, Construction Safety, Pre-Construction	78%
Oil Field Operator	1%	Project Commissioning, Preventive Maintenance Planning	Oil and Gas Drilling, Rig, Oilfield, Well Control, Directional Drilling	89%

Note: Percentages may not add up to 100% due to some skills not falling under these categories.

A five-point blueprint for governing AI

- 1 Implement and build upon new government-led AI safety frameworks
- 2 Require safety brakes for AI systems that control critical infrastructure
- 3 Develop a broader legal and regulatory framework based on the technology architecture for AI
- 4 Promote transparency and ensure academic and public access to AI
- 5 Pursue new public-private partnerships to use AI as an effective tool to address the inevitable societal challenges that come with new technology

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More Online Learning Generative AI

- Professional Certificate: [Career Essentials in Generative AI by Microsoft and LinkedIn](#)
- [Introduction to Prompt Engineering for Generative AI](#) by Ronnie Sheer
- [Introduction to Conversational AI](#) by Ian Barkin
- [Generative AI for Business Leaders](#) by Tomer Cohen

The opportunity is yours to
lead the AI transformation

Thank you