

INTRODUCTION TO AI



Presenting: The Evolution of Technology
By [Your Name/Title]

PRESENTATION
2024

Introduction To Artificial Intelligence (AI)

This power point slide is based on the
presentation

Learn Artificial Intelligence With Shankar

<https://www.slideshare.net/slideshow/introduction-to-artificial-intelligencepptx/256769375>

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Definition Of AI

- From the Oxford dictionary: **Intelligence is the ability to acquire and apply knowledge and skills.**
- DEFINITION OF ARTIFICIAL INTELLIGENCE
 - AI is a term coined by emeritus Stanford Professor, **John McCarthy** in 1955. His definition of AI is “The science and engineering of making intelligent machines”
 - Definition of AI has evolved over time, Before AI was thought of as machines that were doing clever things like playing chess, but today, AI is defined as machines mimicking human cognitive functions like learning, reasoning and decision-making.

Earliest AI



Talos was a giant bronze automaton in Greek mythology. He is often considered the one of the earliest fictional robots.

Origins and Early Concepts

- **1950:** Alan Turing (he broke ENIGMA), proposes to answer the question *can machines think?*; introduces the **Turing Test**.
- **1956:** John McCarthy coins the term *Artificial Intelligence* at the first-ever AI conference at Dartmouth College.

Growth, Challenges & AI Winters

- **1958:** Frank Rosenblatt built the Mark 1 Perceptron, the first computer based on a neural network that *learned* through trial and error.
- **1974-1980 First AI Winter:** Funding and interest decline due to unmet expectations and limited computer power.
- **1980s:** Neural networks and expert systems gain traction.
- **1987-1993 Second AI Winter:** Specialized hardware fails, expert systems under perform and enthusiasm collapses again.
- **1997:** *IBM's Deep Blue* defeats world Chess champion Garry Kasparov, reigniting interest.

Rise of Large Language Models

- **2010-2020s:** Models like GPT, BERT and PaLM demonstrate huge advances in language understanding and generation. These models power chatbots, search engines, writing tools and creative assistants across industries.

Cloud computing/data centers became main stream providing the necessary computing power for AI.

- **2017: Transformer Architecture**

TODAY

- AI powers voice assistants, autonomous vehicles and productivity tools.
- Efficiency and Availability
- Green AI
- Ethical debates and governance efforts are shaping its future.

Goals Of AI

GOALS OF ARTIFICIAL INTELLIGENCE



**AUTOMATE
REPETITIVE
TASKS**



**ENABLE
REASONING &
LEARNING**



**PROCESS &
ANALYZE
DATA**



**UNDERSTAND
LANGUAGE**

Types Of AI

Artificial Narrow Intelligence (ANI)

Specialized for one task, what we have today
Examples, ChatGPT, Siri and Google Maps

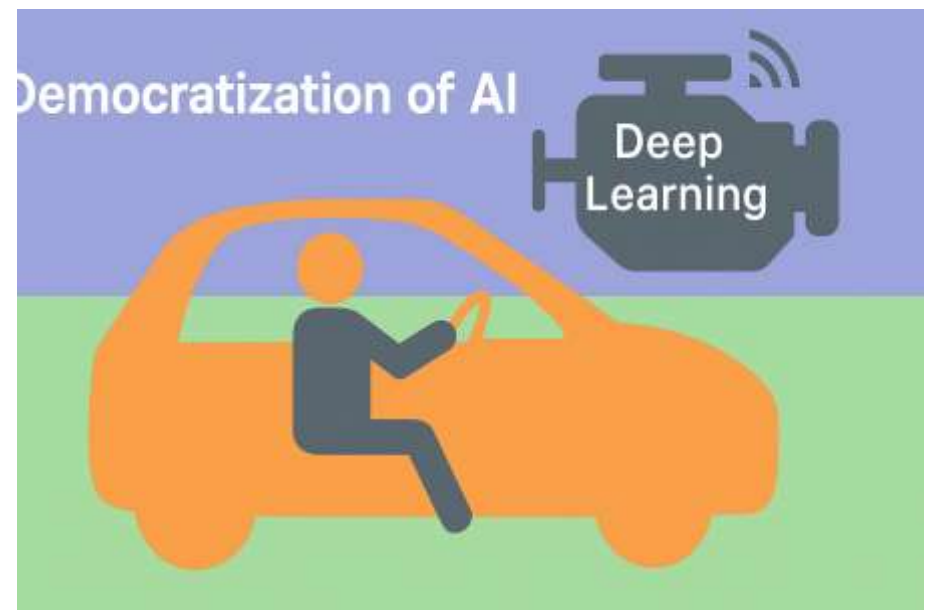
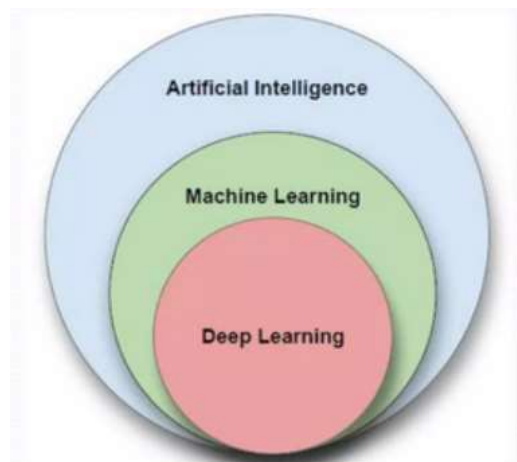
Artificial General Intelligence (AGI)

Equal to human intelligence, can reason and learn
Available from 2026 to 2030.

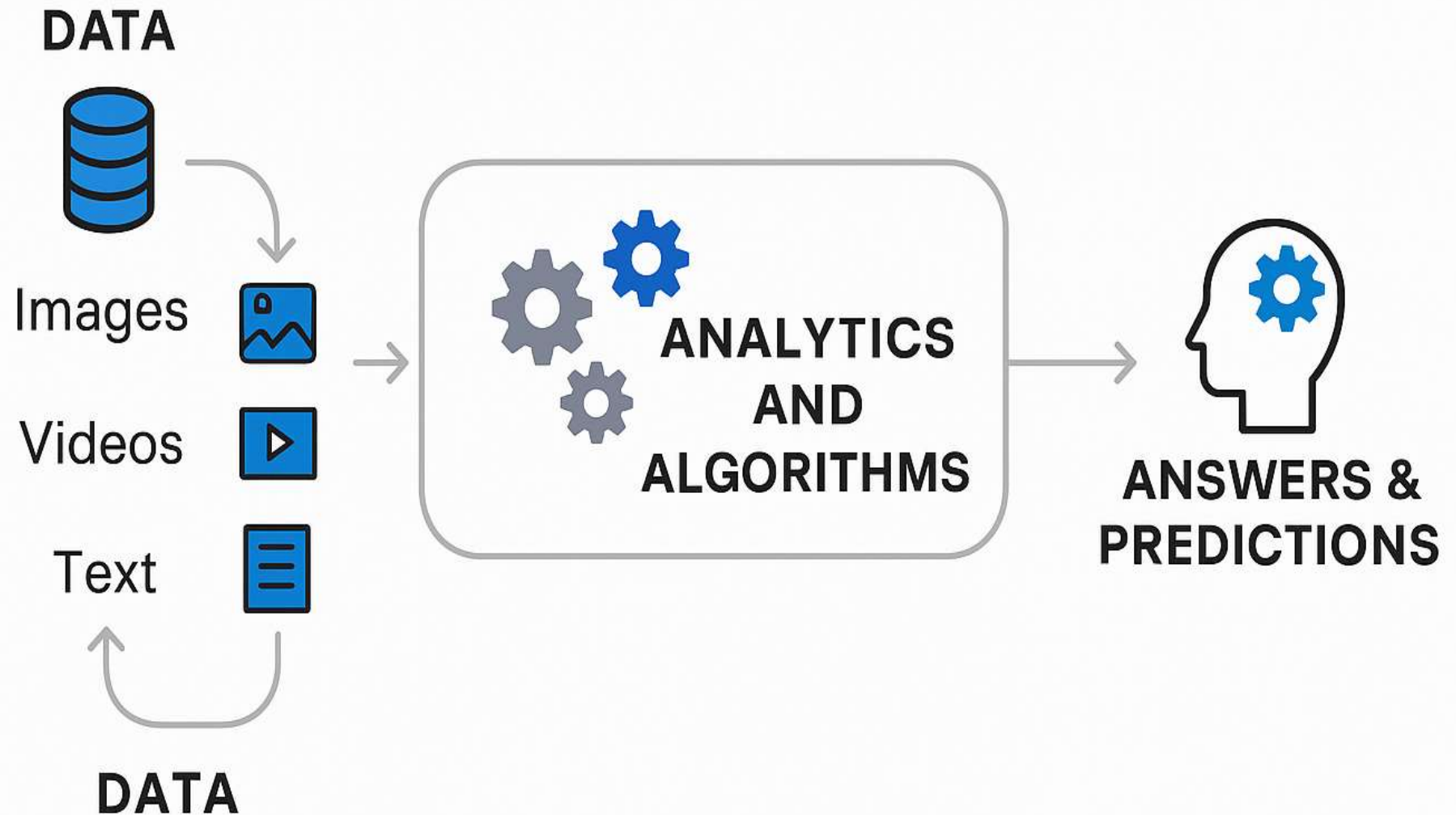
Artificial Super Intelligence (ASI)

AI exceeds human intelligence.
Available from 2027 to 2060.

Sub-Fields of AI



HOW AI WORKS



Data Centers



A building that is filled with servers (computers), storage, networking and cooling systems



Contains from 100 to 2.6M+ servers



Each server is about 100 times more powerful than typical laptop



Reports in some states electrical prices have gone up 10 to 20% higher due to data centers



Used for training AI models and running AI agents



Another example of a data server is Amazon Web services

Consumes up to 1.3% of global demand for electricity

Large Language Models (LLM)

- Why LLMs are Game-Changers
 - **Zero-shot and few-shot learning:** LLMs can perform tasks they weren't explicitly trained for by leveraging patterns in language.
 - **Multitask capability:** One model can handle translation, summarization, question answering and more.
 - Users interact using plain language making this accessible to non-experts.
- What Makes an LLM “Large”
 - Billions of parameters.
 - Massive training data.
 - Transformer Architecture.

LLM Training Steps

- Three main phases, learning, specializing and aligning.

1. Pre-Training

- Learns basic rules, patterns and facts from human language using trillions of words.

2. Fine-Tuning

- High-quality, human-curated dataset consisting of prompts and the *ideal* human-written response.

3. Alignment (The Safety Phase)

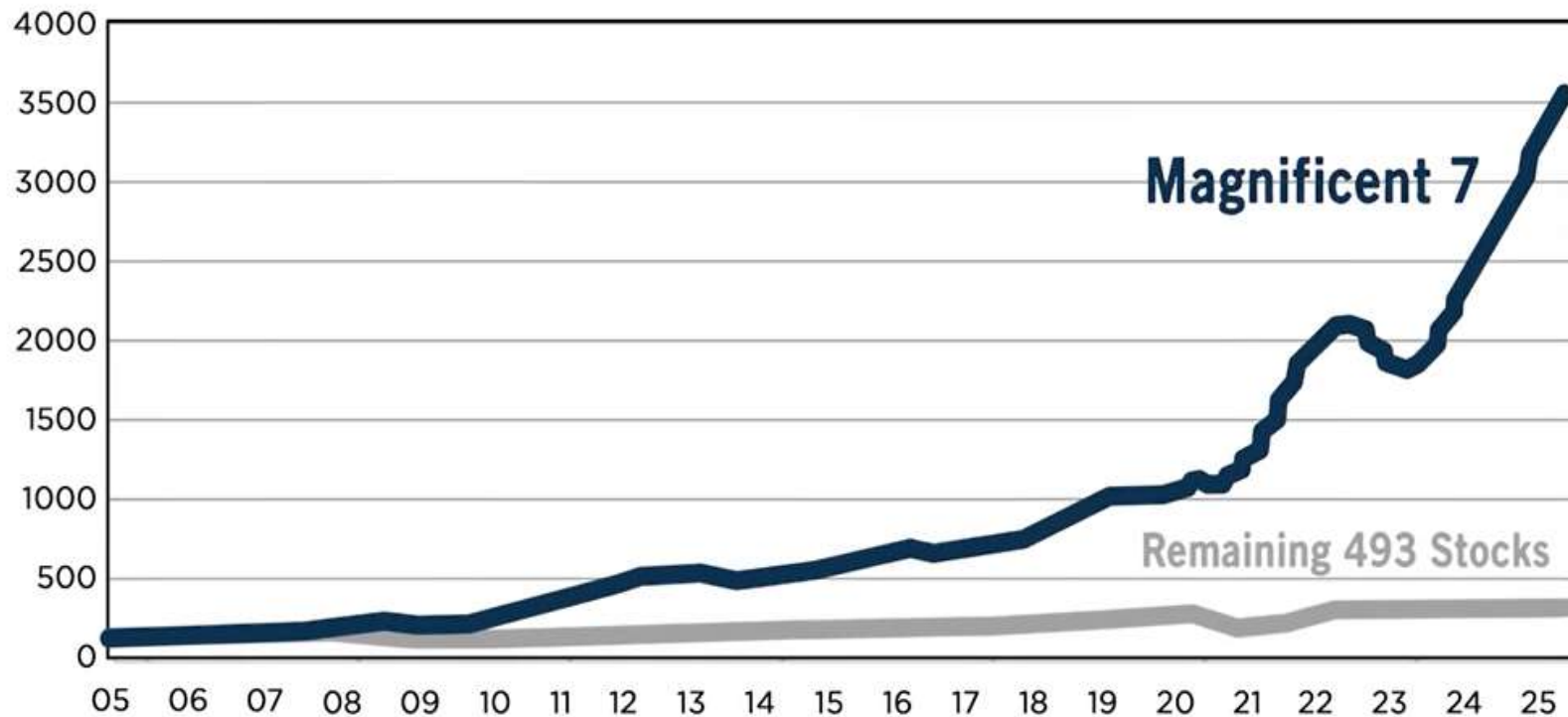
- Human evaluators ranks responses from best to worst.
- Used to train a reward model, which is to predict responses a human is likely to prefer. One of the goals is to remove harmful content

Cost Of Training Of LLM

- Depending on the model, training can take from days to months.
- Cost for very simple models, less than \$1
- Cost to train ChatCPT-5 is estimated to be \$50M to \$200M with some analysts' guessing it was over \$1 billion.
- Pre-trained info sometimes used to save cost.

AI Hype And Stock Market

Speculation about the future of AI S&P 500

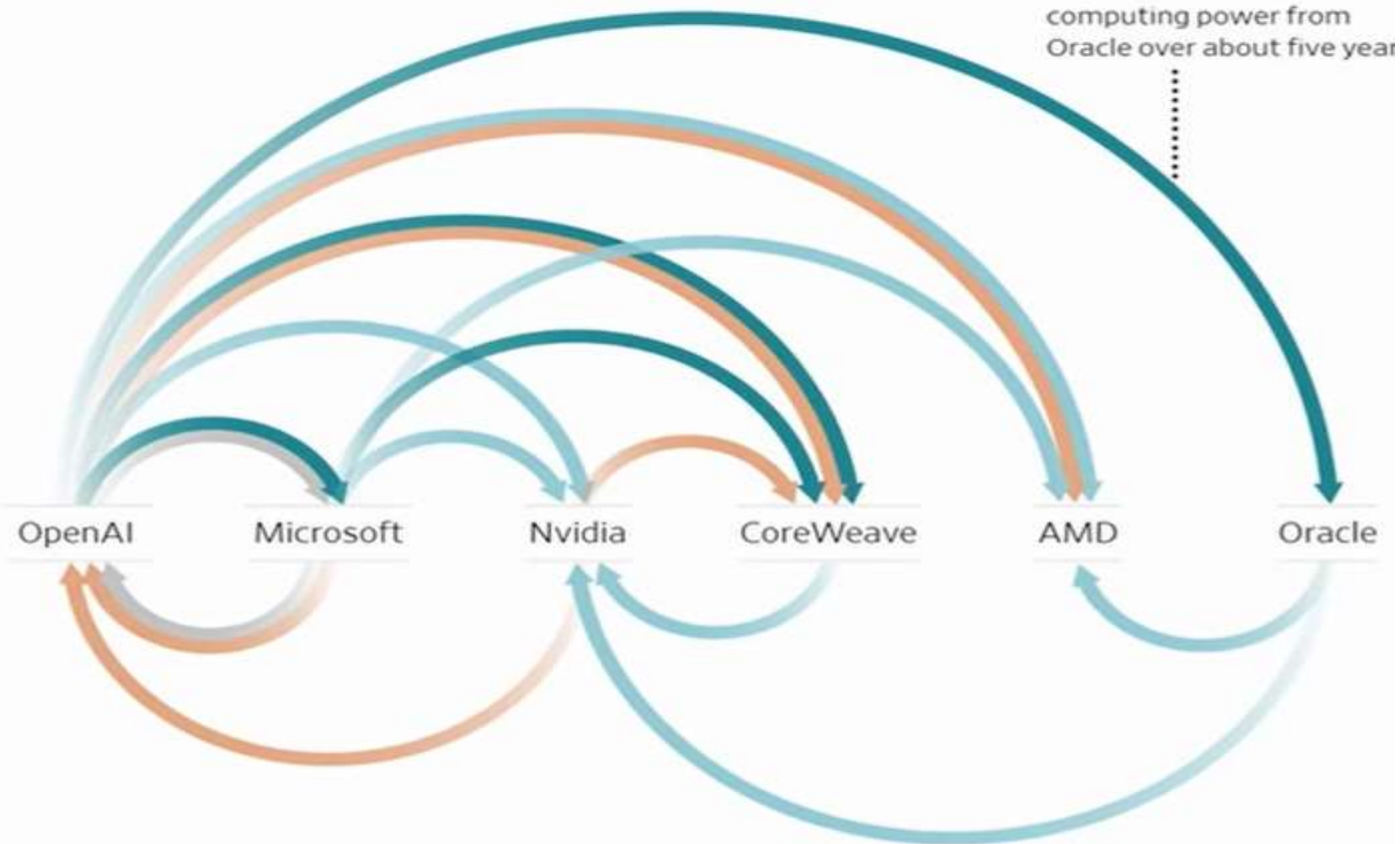


SOURCE: Chart By Goldman Sachs

AI – Capital Flows

Select capital flows among six AI-industry companies

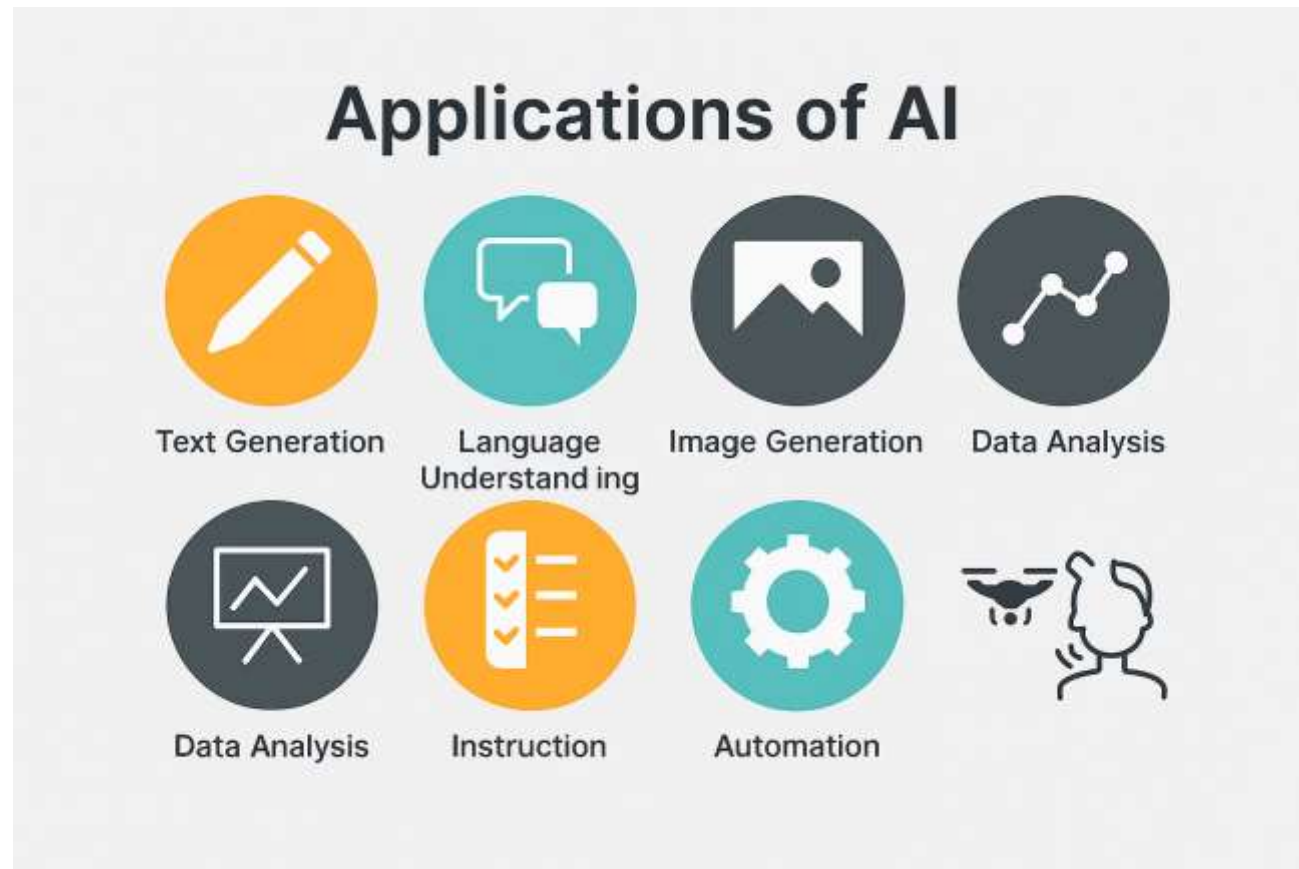
■ Chip purchases ■ Infrastructure purchases and rentals
■ Equity investment ■ Revenue sharing



Applications Of AI

- AI Cameras
- Google Maps
- Self-driving Cars
- Chatbots
- Note Taking (Zoom)
- E-Commerce
- Education
- Life-Cycle
- Healthcare
- Social Media
- Marketing
- Astronomy
- Cyber Security
- Travel and Transport
- Automotive Industry
- And many more

Applications Of AI as Infographic



Common AI Chatbots

Chatbot	Company	On-line	Notes
ChatGPT	OpenAI	https://chatgpt.com	Writing, coding, Q&A
Claude	Anthropic	https://Claude.com	Known for safety
Copilot	Microsoft	https://copilot.com	Integrated with Windows and Office
DeepSeek	DeepSeek AI	??	China
Gemini	Google	https://gemini.google.com	Best for google users
Grok	xAI	https://grok.com	Elon Musk's venture
LLaMA	Meta	https://llama.online/chat	Facebook
Preplexity AI	Perplexity	https://perplexity.ai	Good for research

AI Part 2 Topics

- The following is some of the topics that will be discussed during the next MBG meeting.
 - Social impact
 - Risks and Benefits of AI
 - Advantages and Disadvantages of AI
 - How to protect one-self from AI
 - More About The Future of AI

Chatbot Demo

TIPS

Be specific: “Write a formal email to my boss about taking Friday off” works better than “Write an email.”

Use follow-ups: Ask it to revise, simplify, or expand.

Paste content: You can paste text, lists, or ideas for help.

WARNING: Don't share sensitive data.

Copilot Start Guide

Getting Started with Copilot

6 Prompt Suggestions for New Users

Ask Questions



- What's the difference between machine learning and deep learning?
- Can you explain inflation in simple terms?



Generate Creative Content

- Write a poem about autumn in the style of Shakespeare.
- Design a logo concept for a vegan bakery.

Create and Edit Documents



- Draft a cover letter for a marketing role.
- Summarize this article in bullet points.
- Rewrite this paragraph to sound more formal.



Plan and Organize

- Make a weekly meal plan with vegetarian options.
- Help me organize a team retreat with activities and budget.

Analyze and Visualize Data



- What's this Excel formula: =VLOOKUP(A2, B2:D10, 2, FALSE)
- Create a chart comparing sales from 2022 to 2023.



Troubleshoot and Learn Tech

- Why won't my printer connect to Wi-Fi?
- Explain how Git works for version control.

Glossary

Artificial Intelligence (AI) - The broad science of creating machines that can **mimic human intelligence** and perform tasks like decision-making and problem solving.

Data Center – A building that is filled with servers (computers), storage, networking and cooling systems.

Deep Learning (DL) - A **subset of ML** that uses highly complex, multi-layered computer systems (**Neural Networks**) to handle very complicated data, like images and speech.

GPT – Acronym for Generative Pre-Trained Transformer.

Hallucination -When an AI generates incorrect or fabricated information that sounds plausible.

Machine Learning - A core subset of AI where systems learn from vast amounts of data to identify patterns and make predictions without being explicitly programmed for every task.

Neural Network – Inspired by the human brain, it simulates how neurons. Each neuron receives input, processes it and outputs the result to another neuron.

References

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AI Hype

[**https://www.youtube.com/watch?v=tAXKxKTGWFQ**](https://www.youtube.com/watch?v=tAXKxKTGWFQ)

[**https://www.youtube.com/watch?v=NbL7yZCF-6Q**](https://www.youtube.com/watch?v=NbL7yZCF-6Q)

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Bubble Videos

<https://www.youtube.com/watch?v=tAXKxKTGWFQ>

<https://www.youtube.com/watch?v=NbL7yZCF-6Q>