AI & GenAI Overview

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Discussion Points

1. AI & GenAI Literacy
2. AI & Pedagogy
3. AI Foundations
4. Ethical Considerations
5. Prompting & Assignments
6. Additional Resources

1. AI & GenAI Literacy

AI & GenAI Literacy

Various examples here:
https://drive.google.com/drive/folders/1IIlh82hxtuLq3FQI8GRMUmRELpLHC4C8?usp=sharing

Me? I use a streamlined approach for my students tailored to media (slide 6).

2. AI & Pedagogy

Approach to Teaching AI & GenAI Literacy

1. Foundations

2. Use-Cases

3. Hands-On Experience

4. Critical Analysis

Syllabus also includes a GenAI policy.

AI & GenAI

Use-Case Categories

Automation

Workflow

Assistant

Creativity

Emphasis on the “human in the loop.”

Emphasis on transformation vs. copy & pasting.

AI & GenAI

Teaching & Learning

– Use-Cases

Asset Creation	Hands-On Exercises	Data Transformation
Coding (even for non-coders)	Simulations	Personalized Learning
Rubric Creation	Assignment Brainstorming	Prompt Construction
Transcription	Bibliography Formatting	Prototyping

Teaching & Learning

Tech Platforms

Some options...

OpenAI (ChatGPT)	Anthropic (Claude)	Google (Gemini)
NotebookLM	Midjourney	HeyGen
Sora	Canva	Grammarly

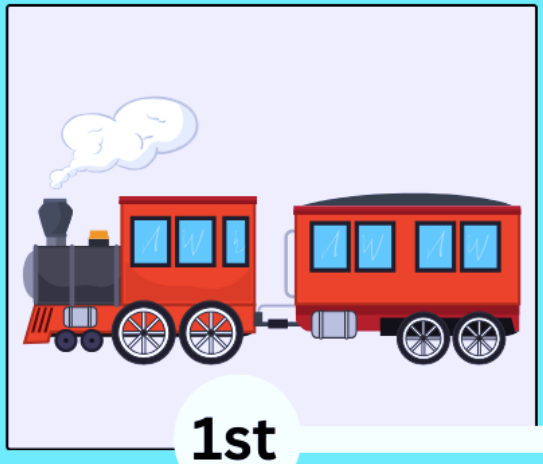
Many of the platforms we currently use already have GenAI tools integrated.

3. AI Foundations

THE FOURTH INDUSTRIAL REVOLUUTION

(welcome!)

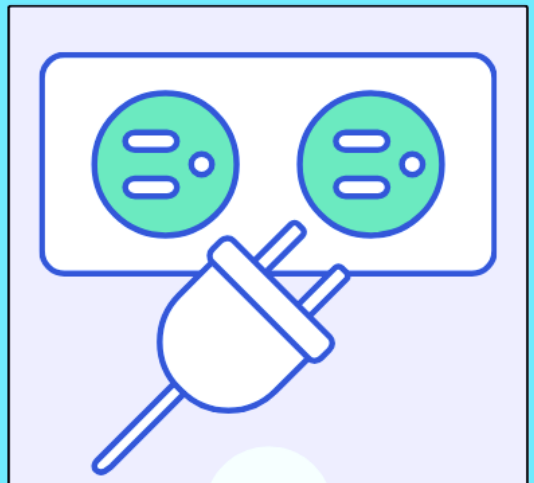
STEAM



1st

1784

ELECTRICITY



2nd

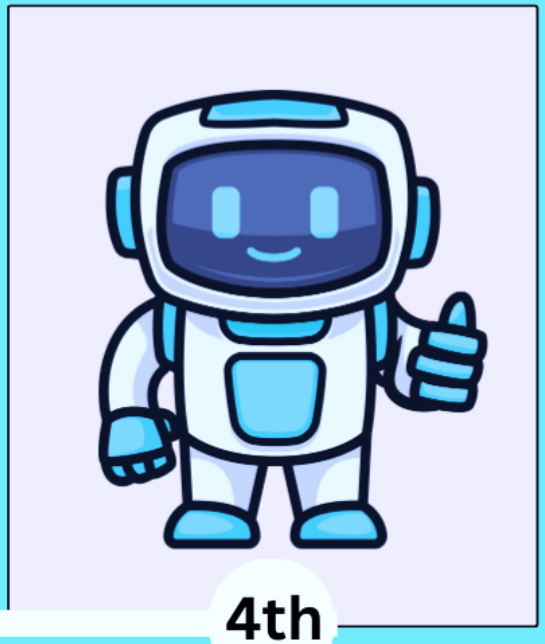
1870

COMPUTING

3rd

1969

INTELLIGENCE



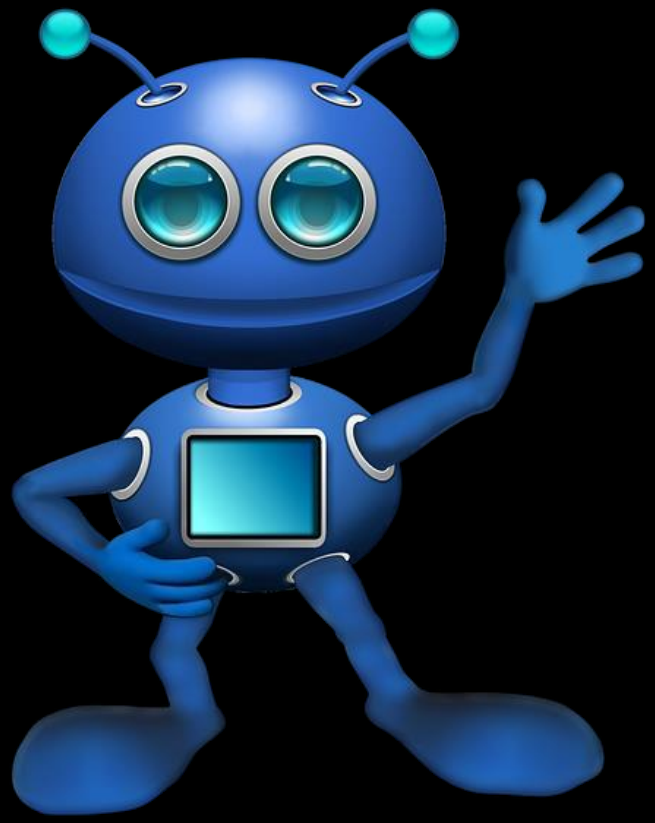
4th

TODAY

A Media and Communication Perspective

Revolution	Timeframe	Impact on Media & Communication
1· Steam	Approx. 7780s	Rise of mass-produced print materials (e.g. newspapers), faster transport of ideas and news via rail
2· Electricity	Approx. 1870s	Invention of radio, telephone, telegraph Birth of broadcast media
3· Computing	Approx. 1960s-2000s	Emergence of digital media, email, early internet, cable TV desktop publishing, CGI
4· Intelligence & Immersion	2010s-present	Rise of immersive media (VR/AR), AI-generated content, personalized feeds, streaming, aigorithmic curation decentralized platforms

What is artificial intelligence?

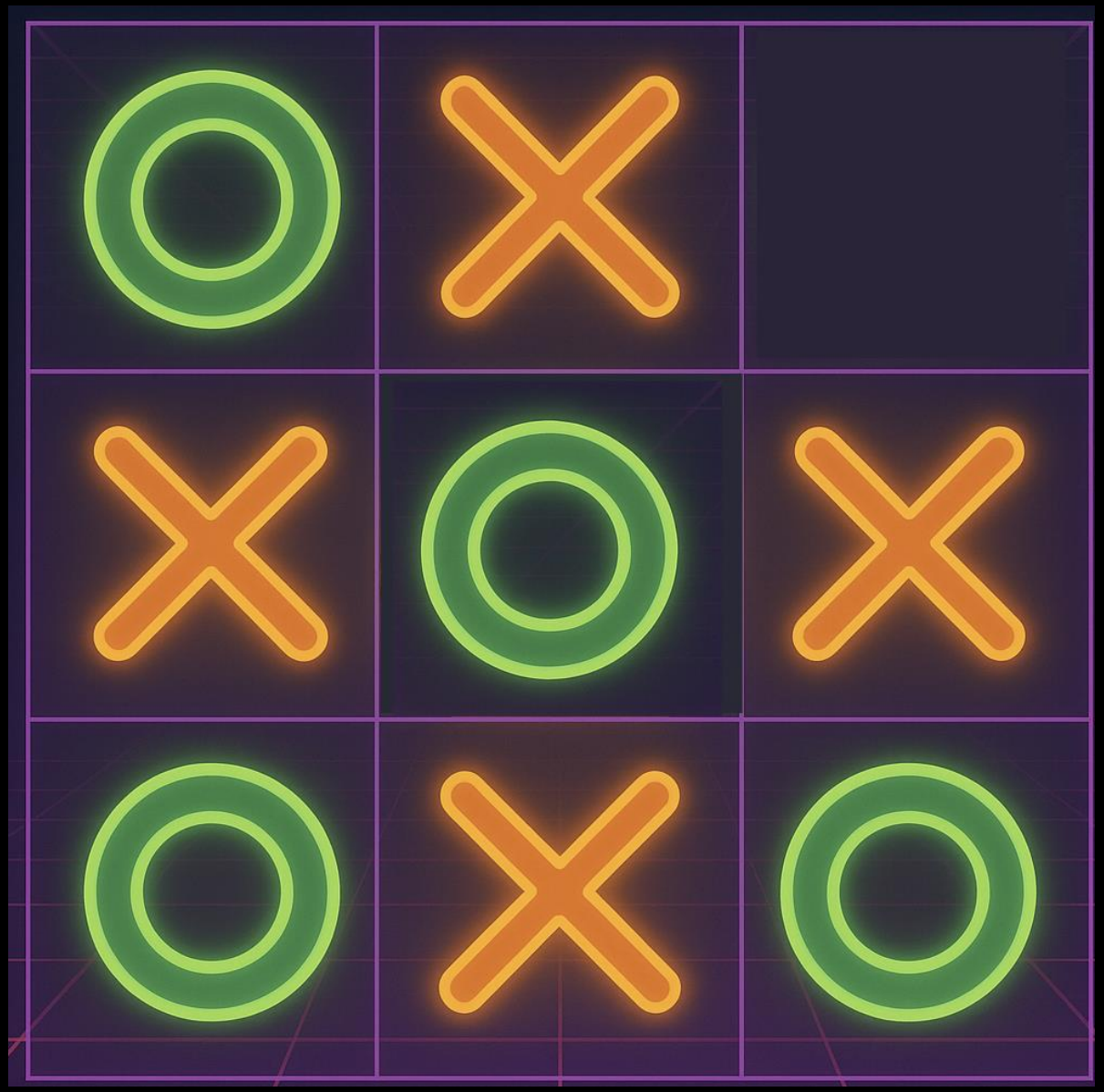


AI refers to systems or machines that perform tasks typically requiring human intelligence, such as recognizing patterns, learning from data, making decisions, and understanding language.

For more information, see Russell & Norvig (2021). Artificial Intelligence: A Modern Approach.

1955

Playing against a computer opponent = AI.

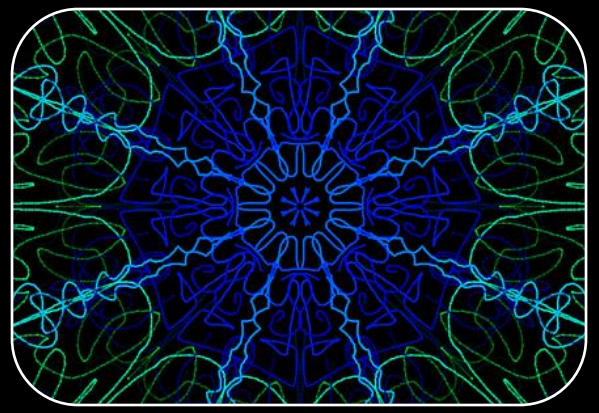


Field of Vision Triggers = AI

RAC7 Games. (2019). *Sneaky Sasquatch* [iOS game]. Apple Arcade. https://rac7.com/sneaky-sasquatch/

Why Artificial Intelligence Now?

Abundance of Data



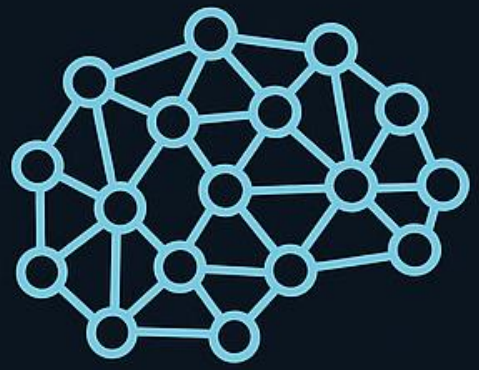
Algorithms

Computing Power

Data Storage

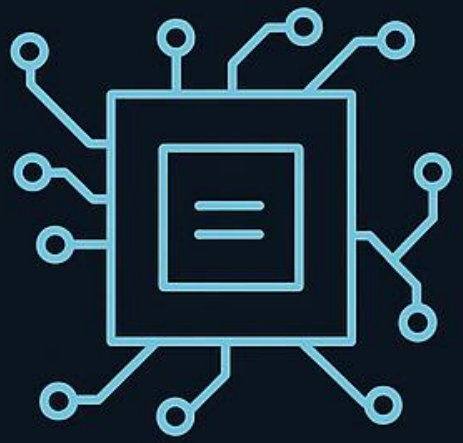
(Plus, advancements in deep learning.)

History of AI



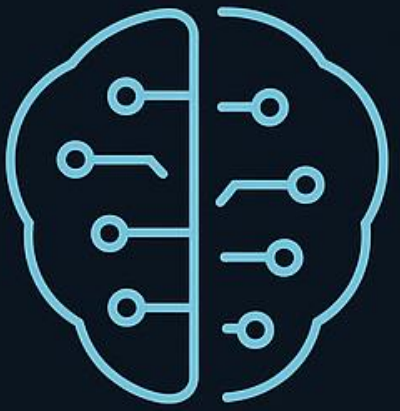
Neural Networks

1950-1970



Machine Learning

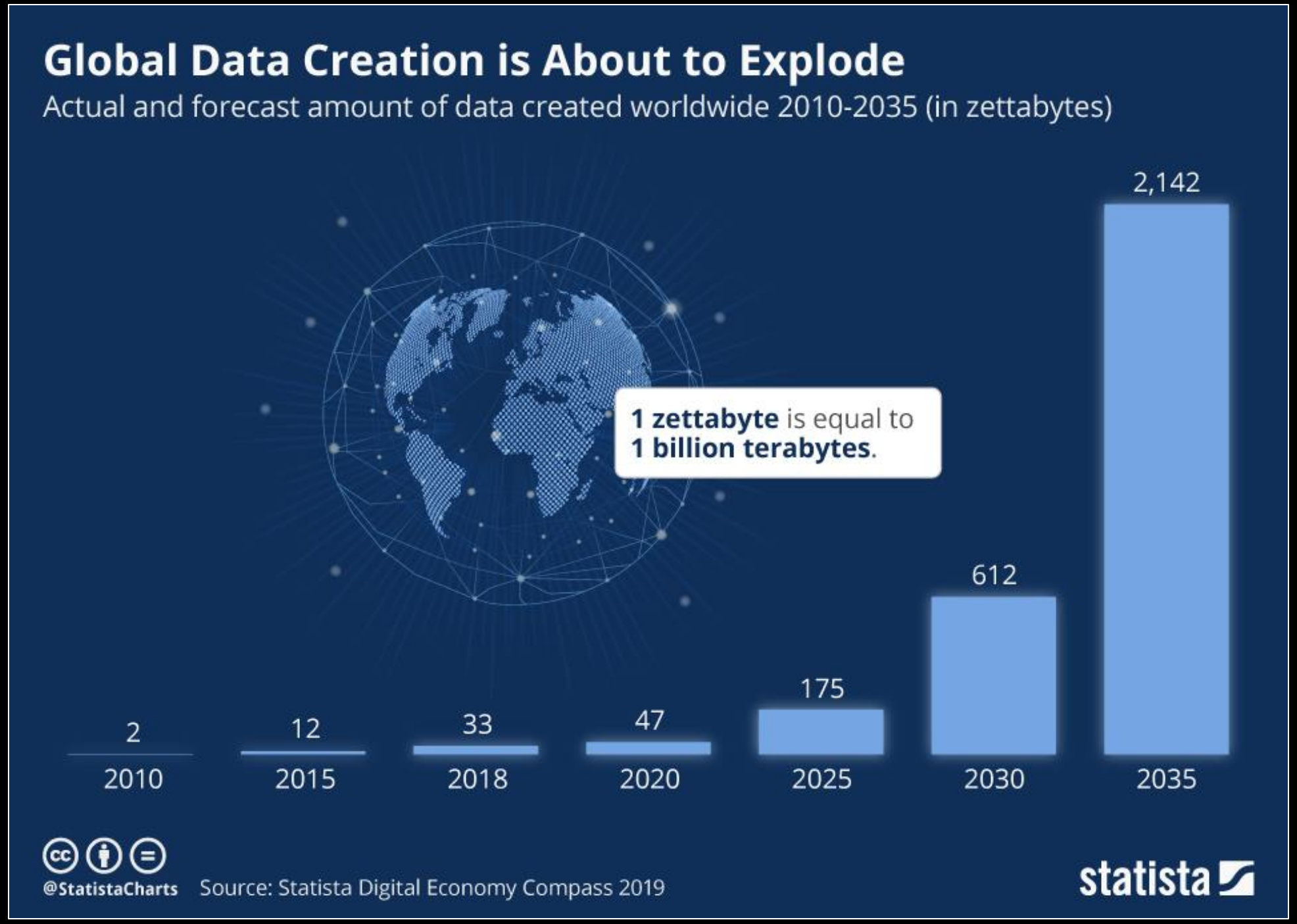
1980-2010



Deep Learning

Today

iPhones -- 100,000 times more processing power than the Apollo 11 computer



Source: Statista. (n.d.). *Global data creation forecasts*. Statista. Retrieved May 14, 2025, from https://www.statista.com/chart/17727/global-data-creation-forecasts/

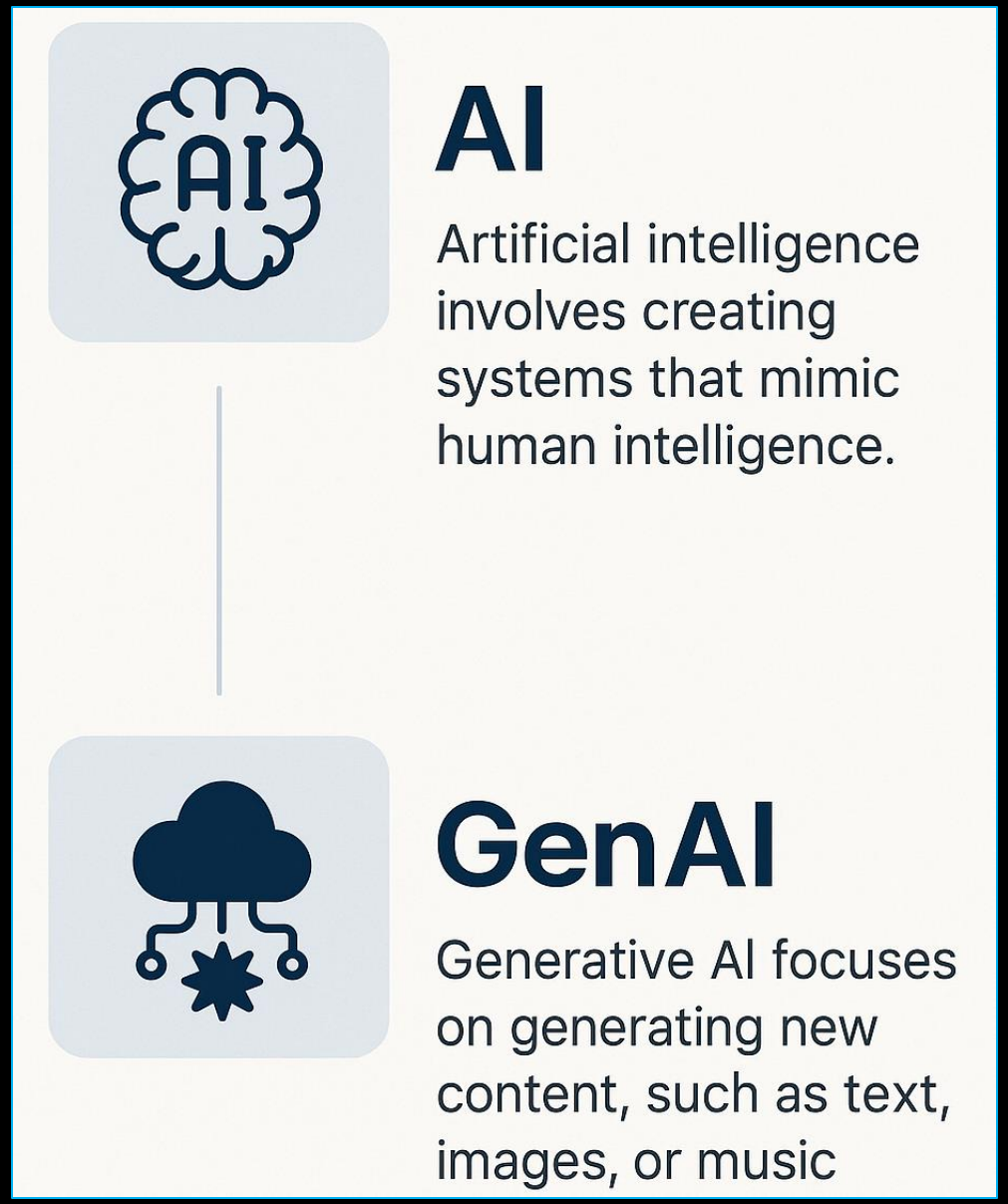
Input

Set of rules to obtain the expected output from given input

Output

Algorithm

ChatGPT is a product built on LLMs -- a subset of Generative AI (which is a subset of AI).



Looks for patterns.

AI is an umbrella term for intelligent systems, while Generative AI is a subset focused on creating content.

AI in Focus

1. Types of AI

2. How AI Thinks

3. AI Capabilities

Types of AI

3 stages of AI

ANI

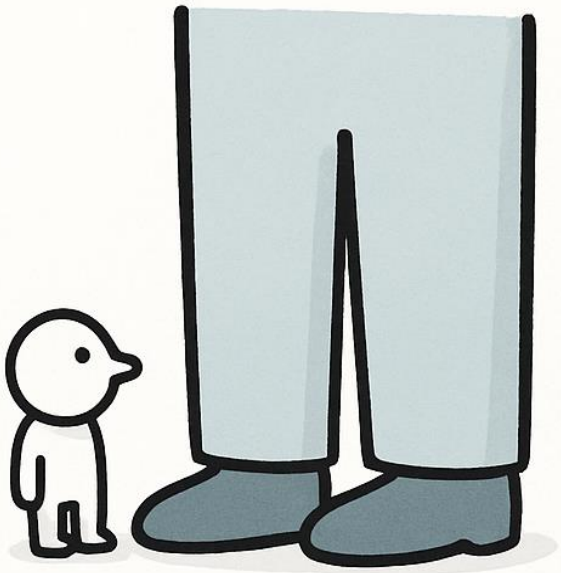
Narrow AI

Dedicated to perform specific tasks

AGI

General AI

Learns and applies knowledge across domains



ASI

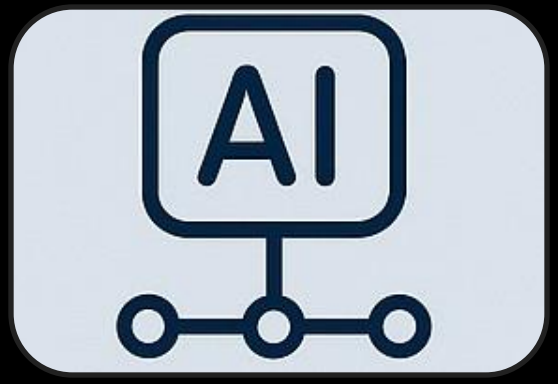
Super AI

Exceeds human intelligence

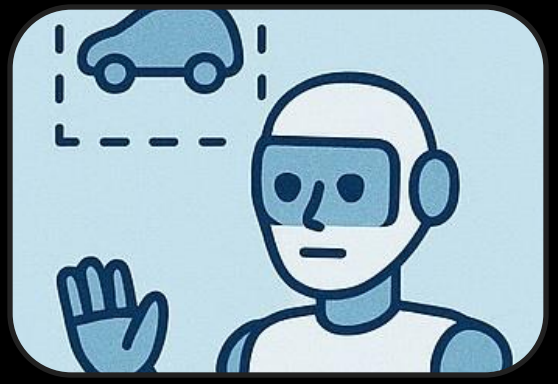
How AI “Thinks”

How AI “Thinks”

Theoretical



Reactive Machines



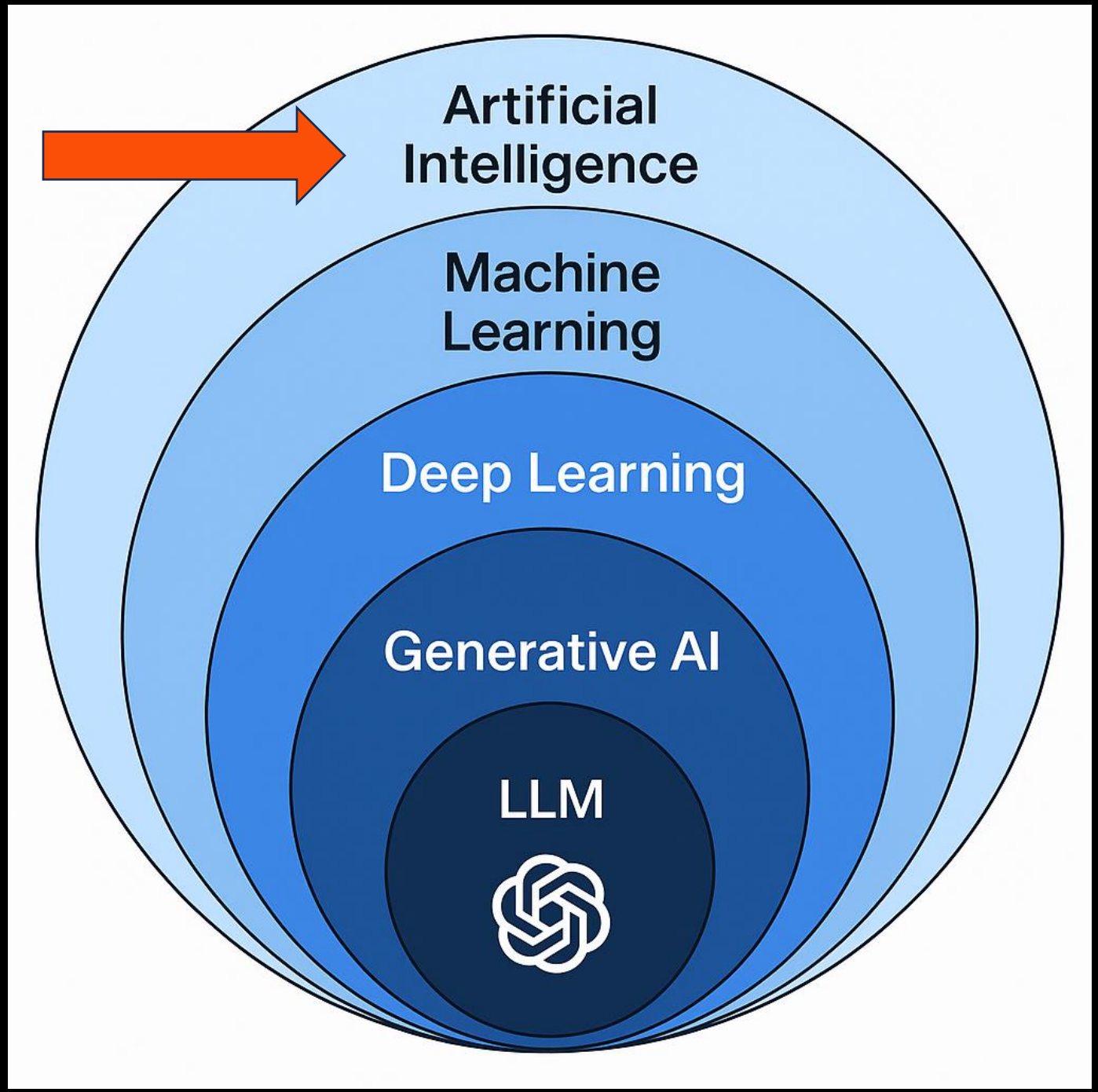
Limited Memory

Theory of Mind

Self-Aware AI

AI Capabilities

AI Capabilities



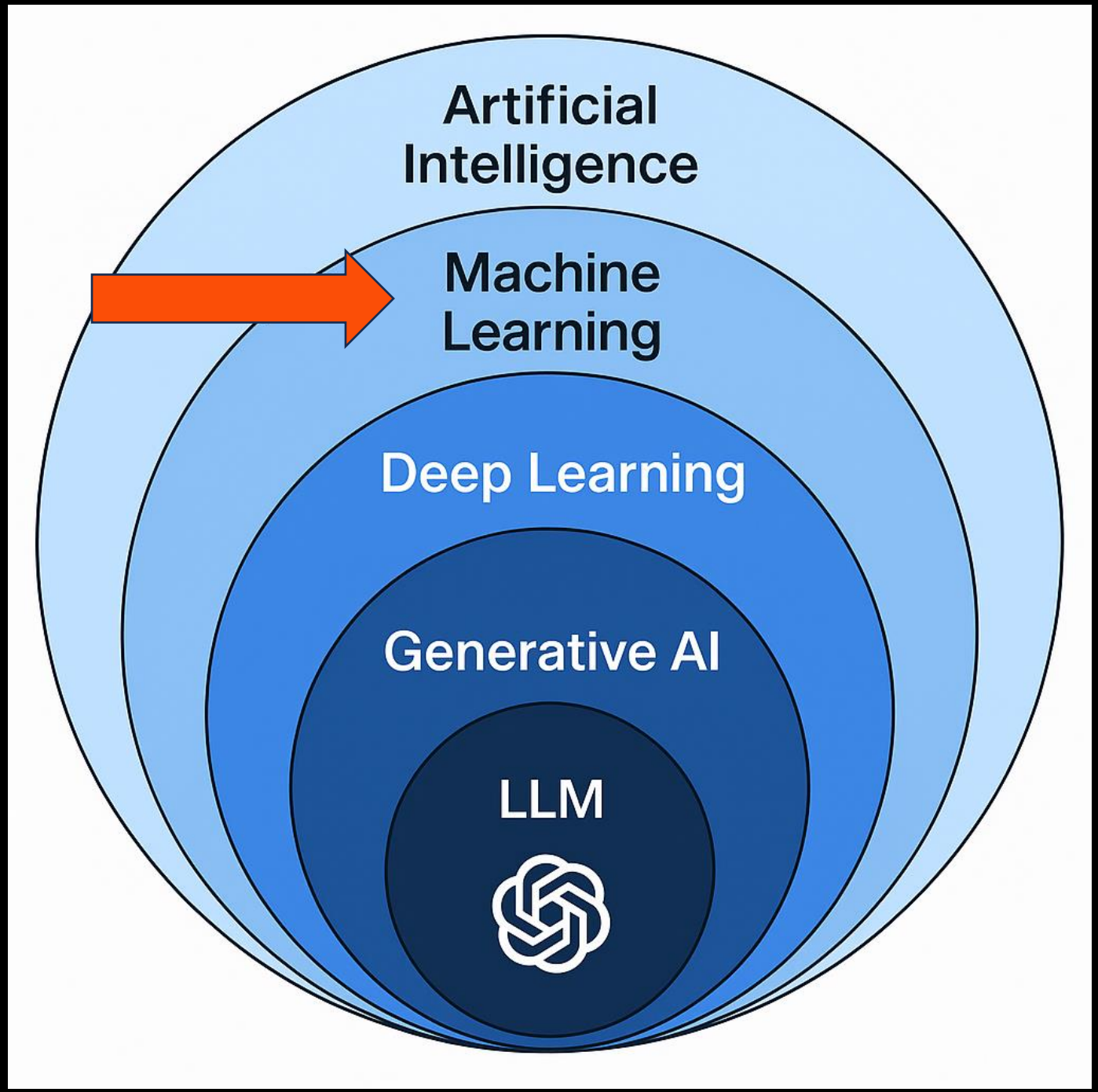
AI Capabilities

Artificial Intelligence (AI)

Artificial Intelligence encompasses automation, logic, and complex decision-making processes.

Early systems relied on strict rule sets, modern AI draws primarily from data to learn and adapt.

AI Capabilities



AI Capabilities

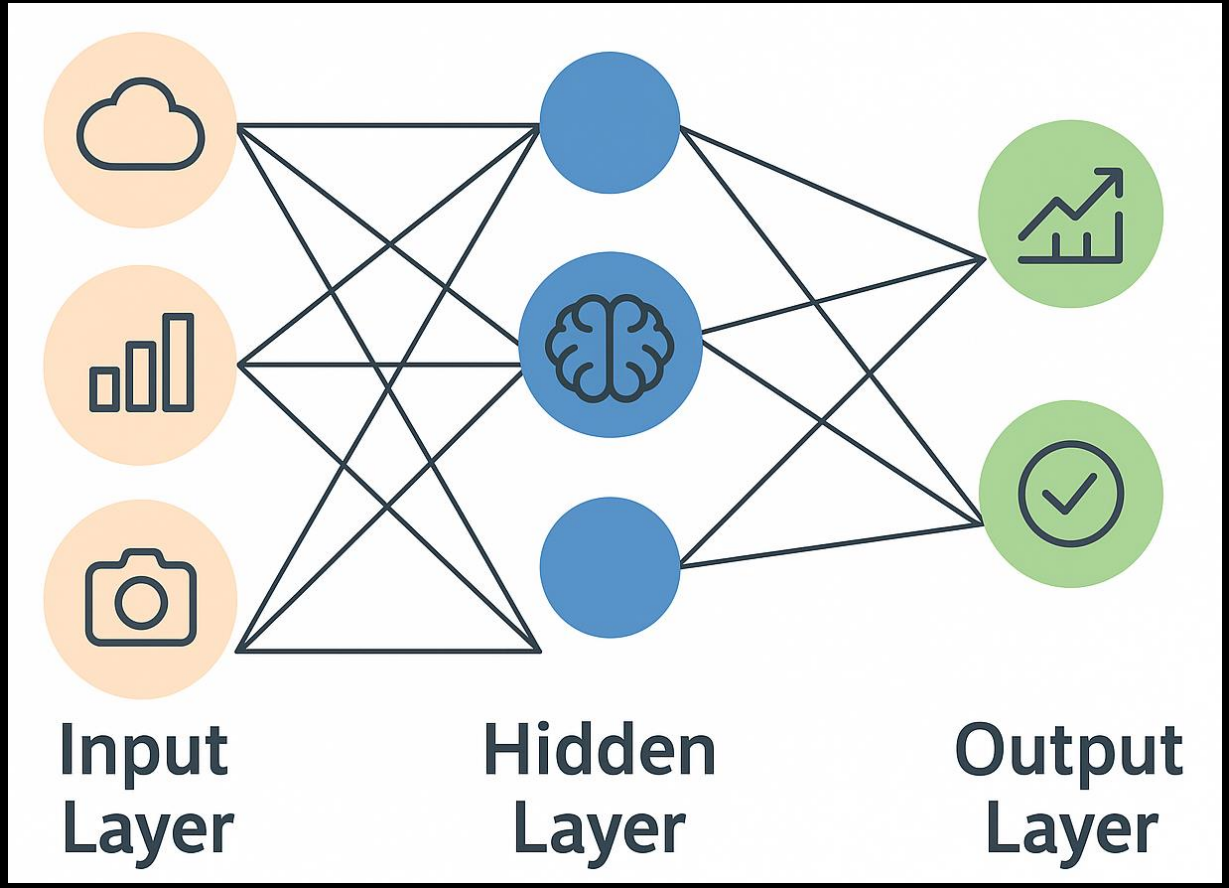
Machine Learning (ML)

Enables computer systems to learn from data to **describe** **patterns**, **predict** **outcomes**, or **recommend** **actions** -- without being explicitly programmed for every specific task.

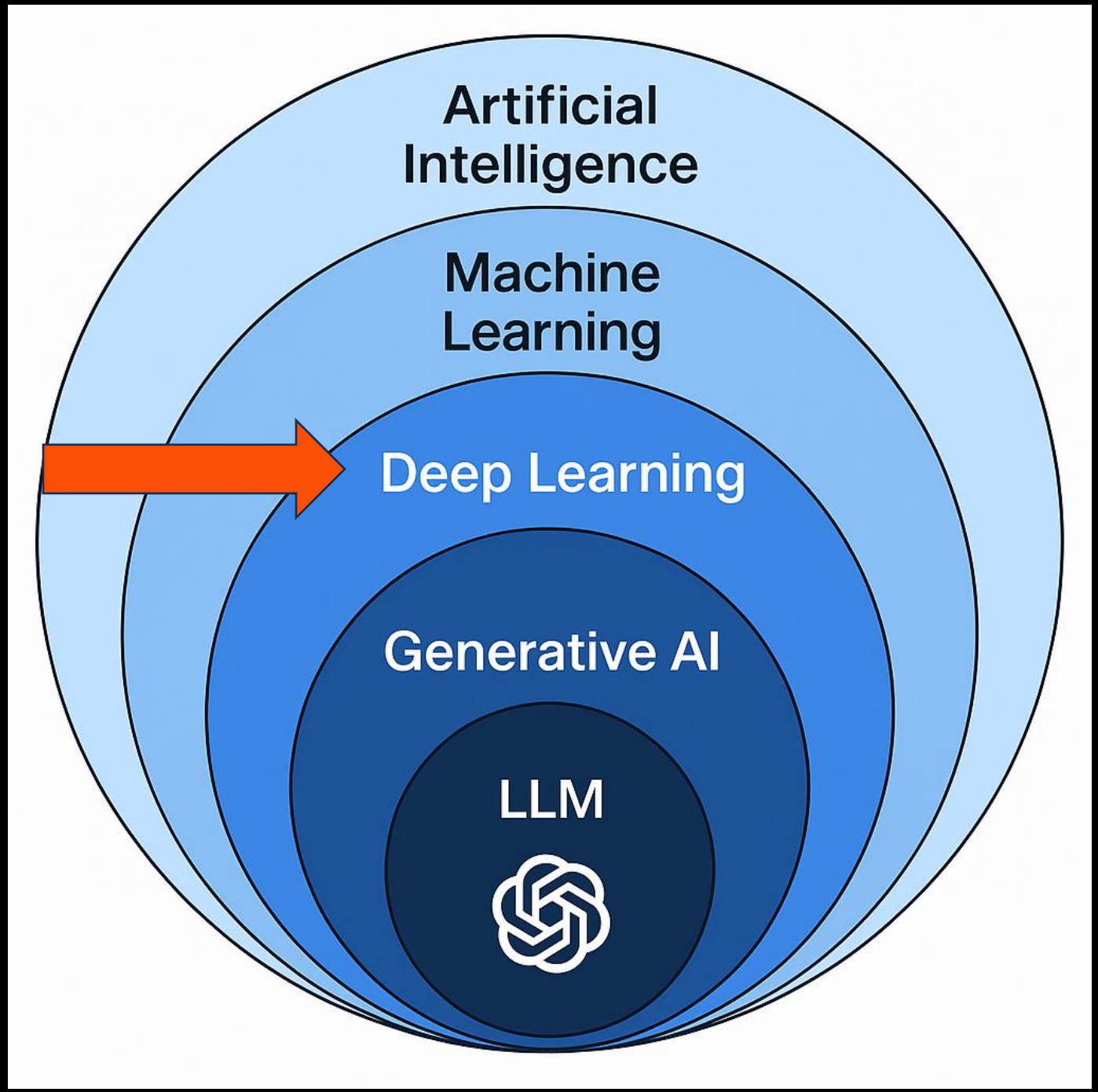
ML can describe what's going on, anticipate what's next, and guide decision-making.

Neural Networks (NN)

A subset of machine learning that emulates neural structures in the brain to perform complex tasks such as pattern recognition and feature extraction.

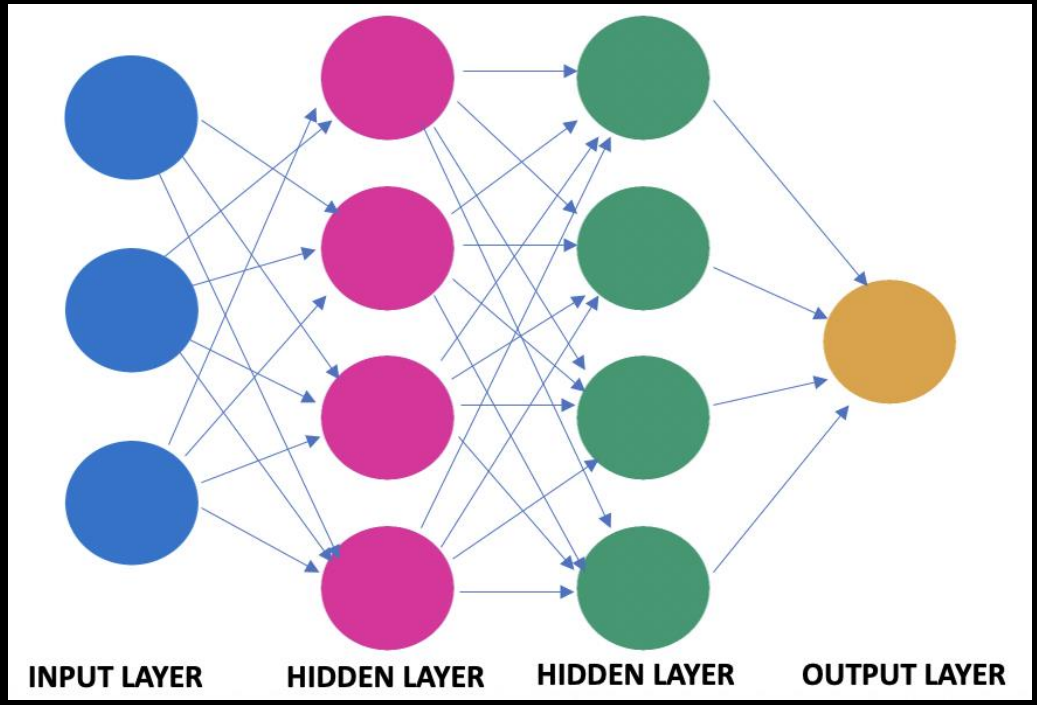


AI Capabilities



AI Capabilities

Deep Learning



Deep learning is a type of machine learning that uses many layers of artificial neurons to automatically extract features from data, especially useful for complex tasks like recognizing faces, translating languages, or driving cars.

Deep Learning – Computer Vision

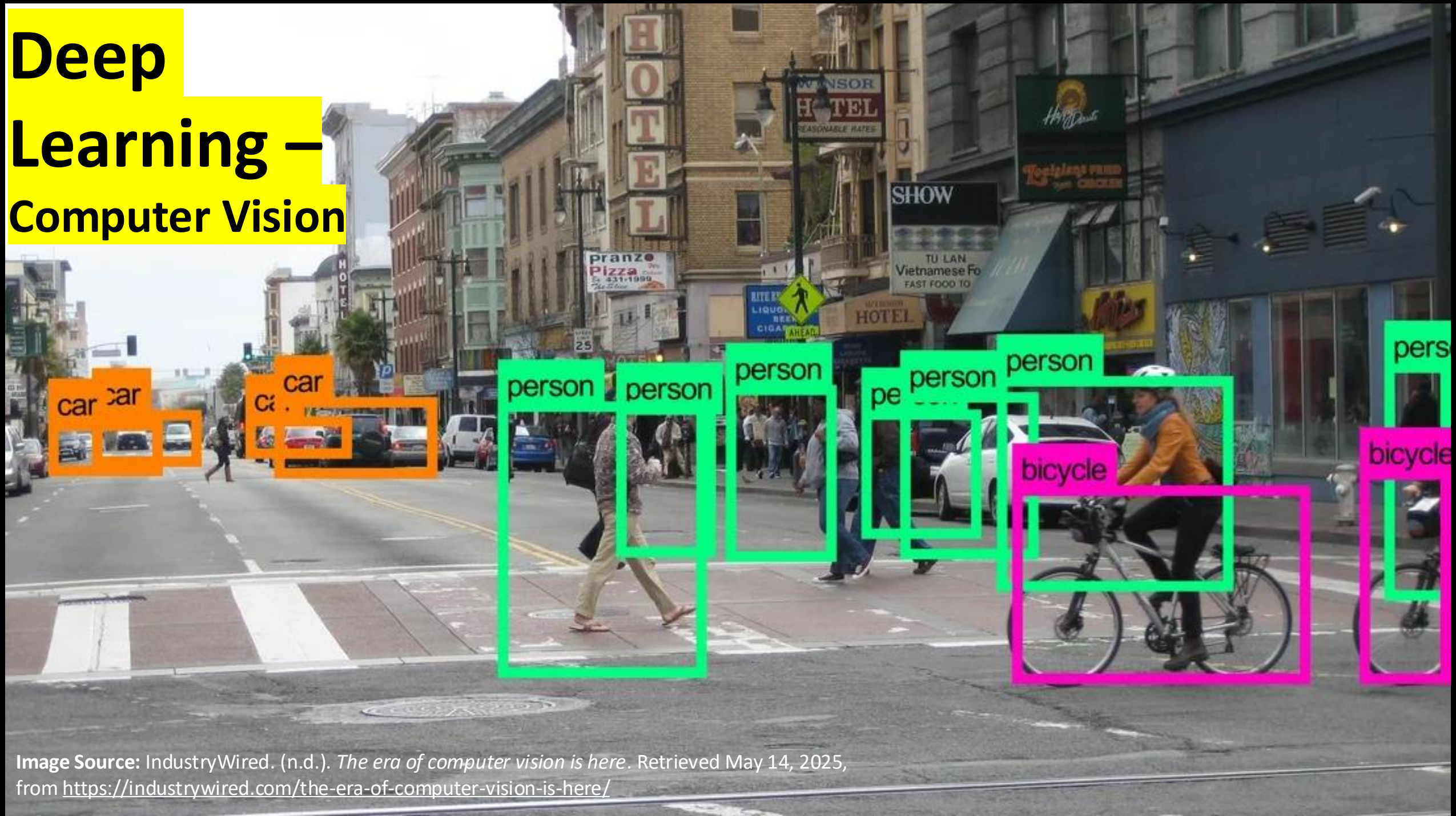


Image Source: IndustryWired. (n.d.). *The era of computer vision is here*. Retrieved May 14, 2025, from https://industrywired.com/the-era-of-computer-vision-is-here/

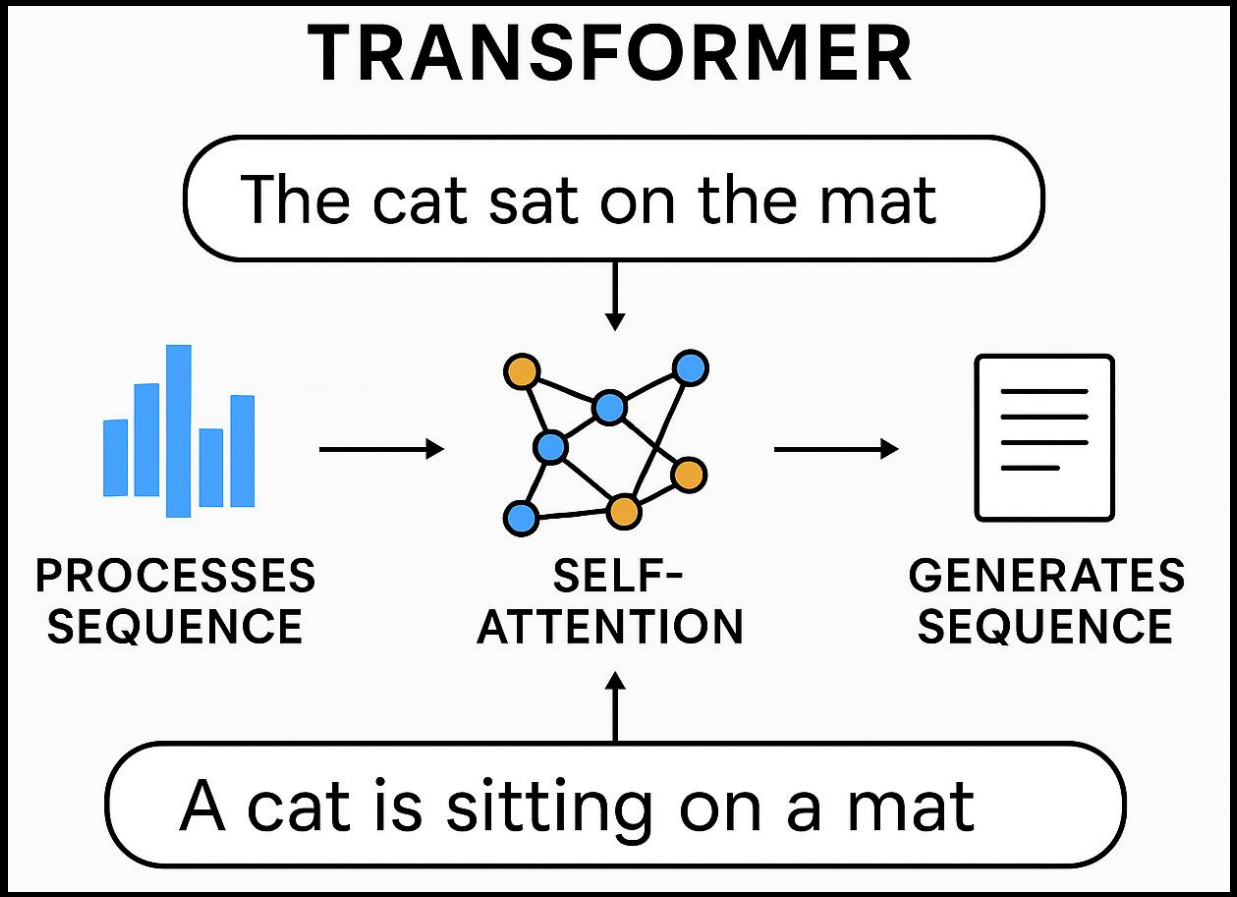
AI Capabilities:

Video & Image Generators

Sora by OpenAI

Transformers

Transformers are a groundbreaking deep learning architecture introduced by Google in 2017.



Using self-attention mechanisms, they enable models to efficiently process, understand, and generate human language and form the foundation of today's large language models (LLMs).

Vaswani, A., et al. (2017)

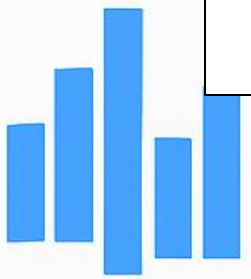
TRANSFORMER

1. input sequence -->

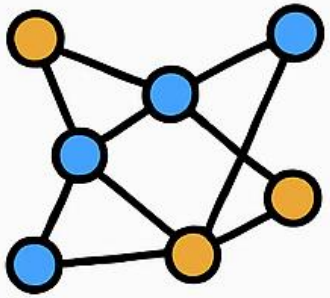
The cat sat on the mat

3. Pays attention to the other words-->

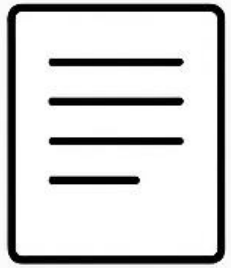
2. input sentence is broken down into tokens -->



PROCESSES SEQUENCE



SELF-ATTENTION



GENERATES SEQUENCE

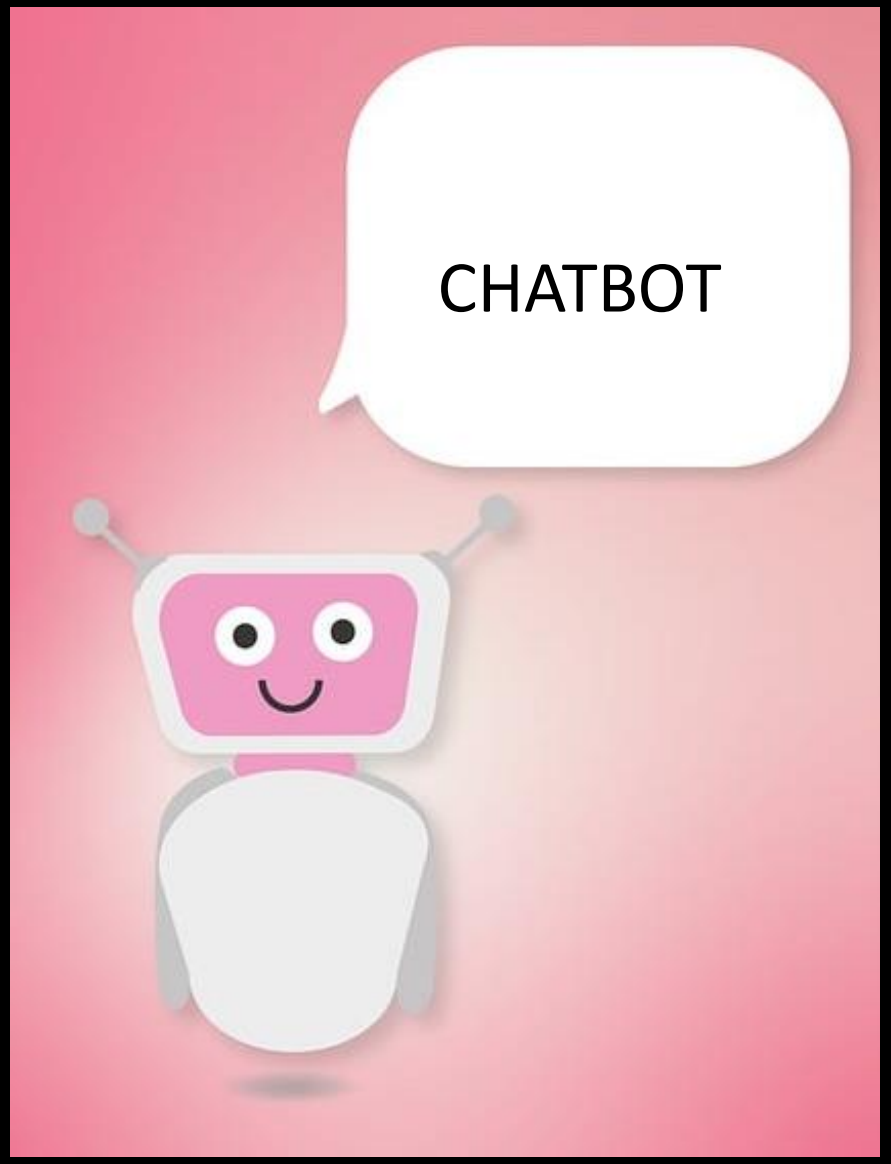
← 4. Generates a sequence of words

A cat is sitting on a mat

← 5. Output

Source: Adapted from public domain/educational resources. Based on concepts from Vaswani et al. (2017).

ChatGPT



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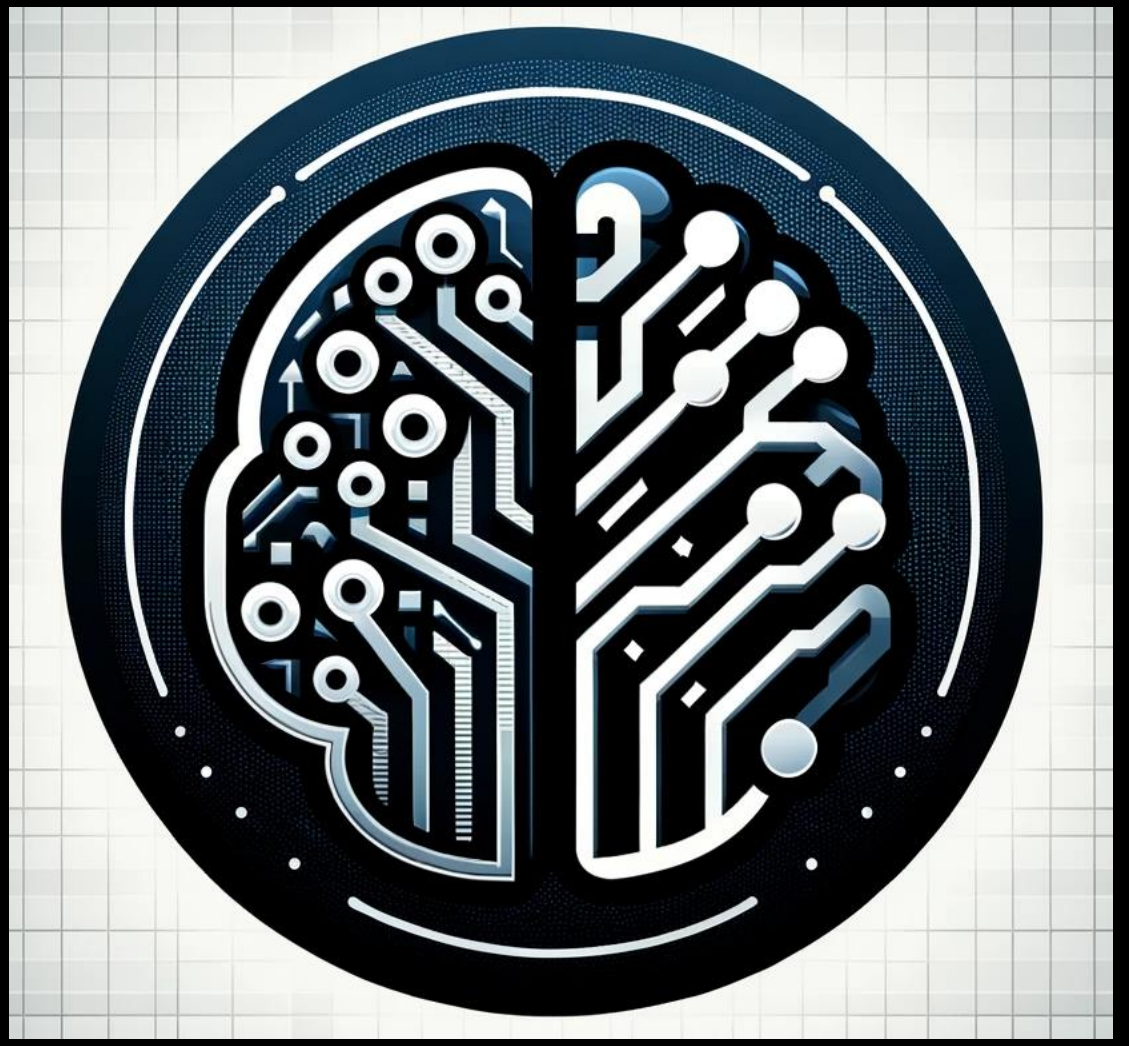


GPT (Generative Pre-trained Transformer)

ChatGPT

+

Peanut Butter

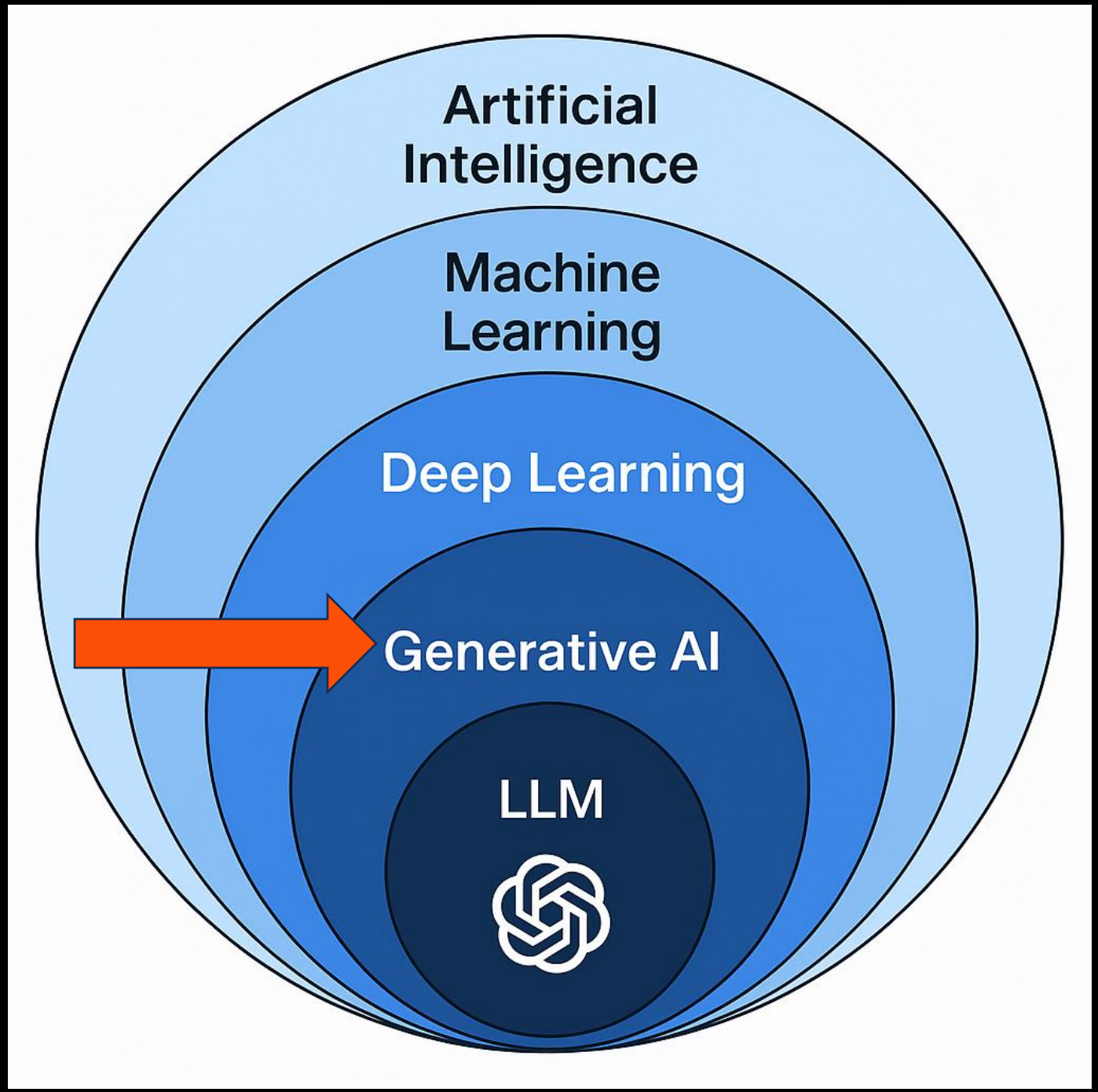
Jelly

Contexto

Game that is helpful for demonstrating how LLMs work.

https://contexto.me

AI Capabilities



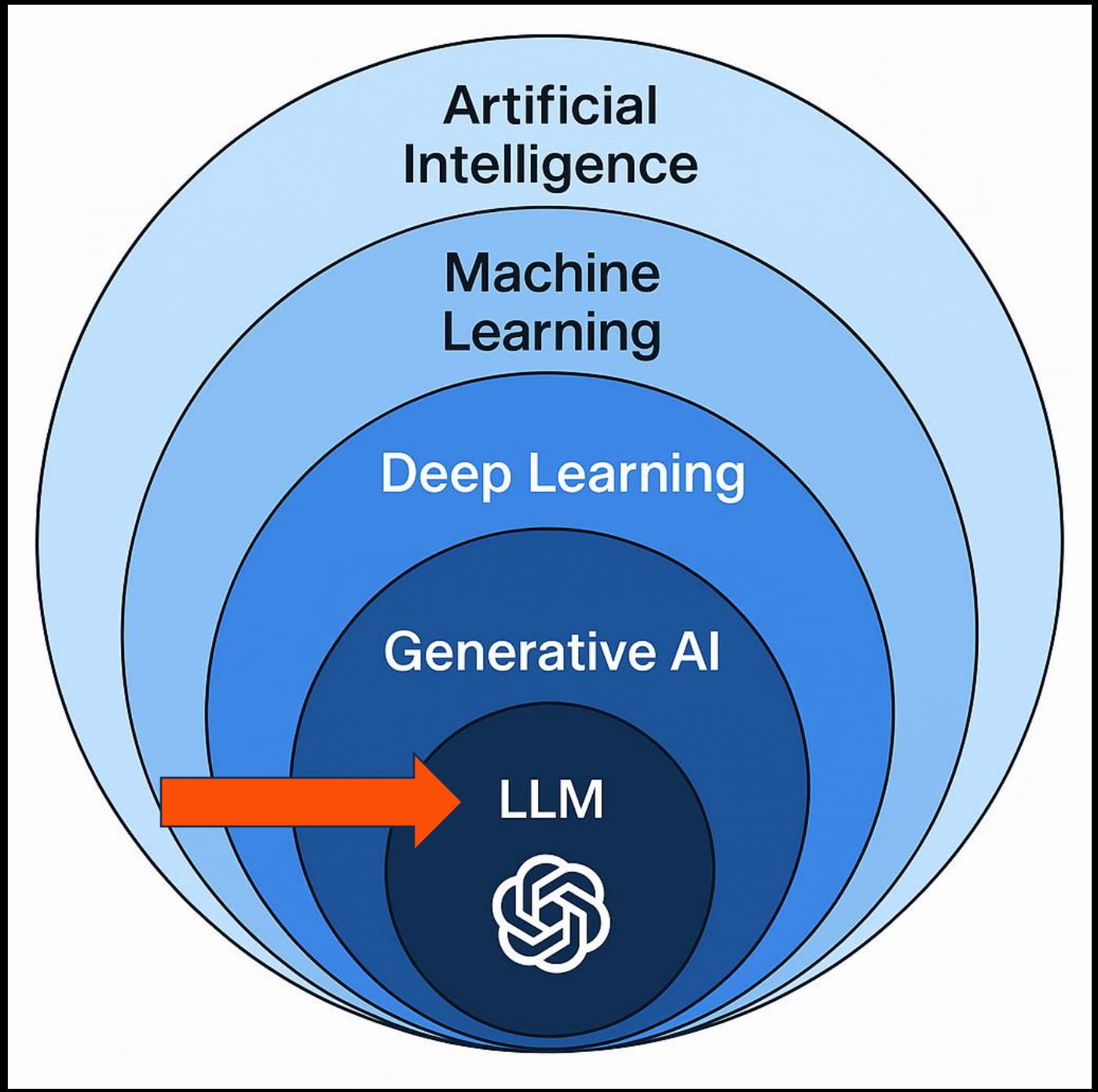
AI Capabilities

Generative AI

A type of AI that creates new data or content by learning from existing examples.

It uses models like large language models (LLMs) or generative adversarial networks (GANs) to produce original outputs that resemble human-created work.

AI Capabilities



AI Capabilities

Large Language Models (LLM)

Trained on massive amounts of text data to understand, generate, and manipulate human language.

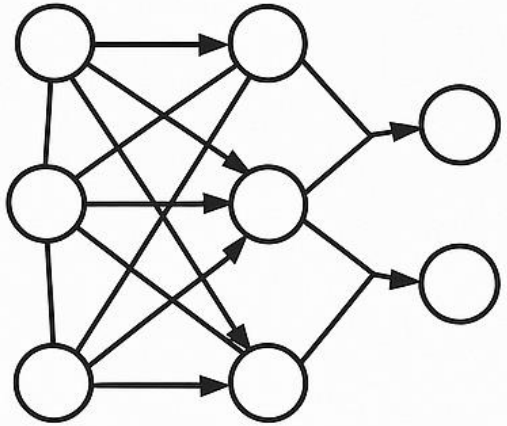
LLMs use deep learning -- particularly transformer architectures -- to predict the next word in a sentence, enabling them to write essays, answer questions, summarize information, translate languages, and more.

LLM

LARGE LANGUAGE MODEL

A type of AI model trained on vast amounts of text data to understand and generate natural language

TEXT CORPUS



KEY FEATURES

- trained on large datasets
- deep learning (transformers)

APPLICATIONS

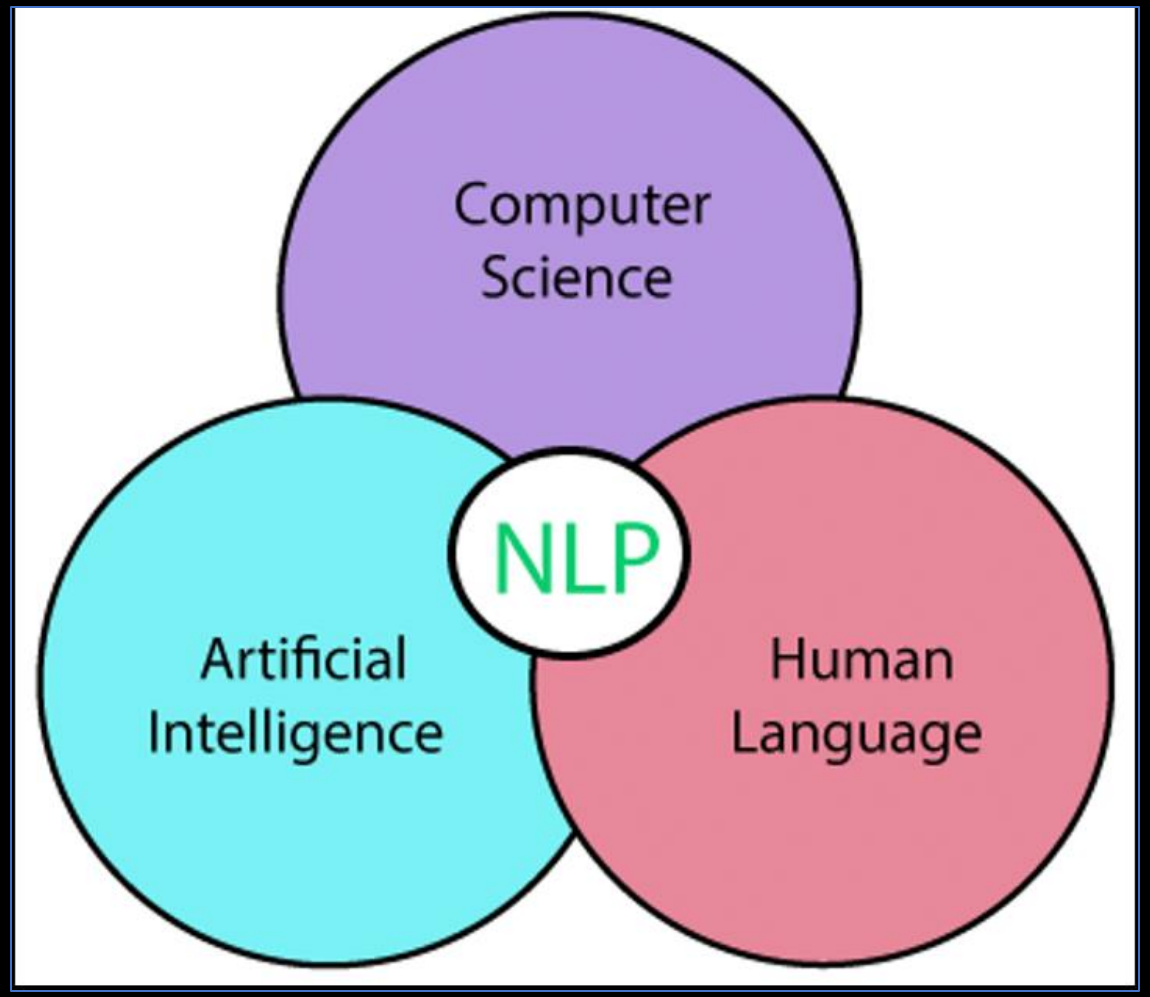
- text generation
- language translation
- question answering
- summarization

Natural Language Processing

Natural Language Processing

(NLP)

Natural language processing (NLP) refers to the branch of computer science -- and more specifically, the branch of artificial intelligence or AI -- concerned with giving computers the ability to understand text and spoken words in much the same way human beings can.



Source: IBM. (n.d.). *What is natural language processing?* IBM. https://www.ibm.com/topics/natural-language-processing

Intelligent NPCs – with NLP abilities

People Make Games. (2023, October 20). *I tried to convince intelligent AI NPCs they are living in a simulation* [Video]. YouTube. https://www.youtube.com/watch?v=aihq6jhdW-Q

4. Ethical Considerations

Center for Humane Technology Co-Founders Tristan Harris and Aza Raskin discuss The AI Dilemma

Source: Harris, T., & Raskin, A. (2023, March 9). *The AI dilemma* [Video]. YouTube. https://youtu.be/cB0_-qKbal4

Three Rules of Technology

Rule 1.

When you invent a new technology, you uncover a new class of responsibility.

Raskin, A., & Harris, T. (2023). *The AI Dilemma* [Presentation]. Center for Humane Technology. https://www.humanetech.com/the-ai-dilemma

Three Rules of Technology

Rule 2.

If that new technology confers power, it will start a race.

Raskin, A., & Harris, T. (2023). *The AI Dilemma* [Presentation]. Center for Humane Technology. https://www.humanetech.com/the-ai-dilemma

Three Rules of Technology

Rule 3.

If we don’t coordinate, the race will end in tragedy.

Raskin, A., & Harris, T. (2023). *The AI Dilemma* [Presentation]. Center for Humane Technology. https://www.humanetech.com/the-ai-dilemma

city

CAUTIONARY TALES ABOUND

Areas for Critical Analysis

- Cognitive Bias of Data Sets
- Impact on Work
- Privacy
- Role of Big Tech
- Artist Rights
- AI-Generated Monocultures
- Environmental Impact

5. Prompts and Assignments

ChatGPT:
BEST PRACTICES

Be the Expert in the Loop

Verify Everything

Actionable Insights

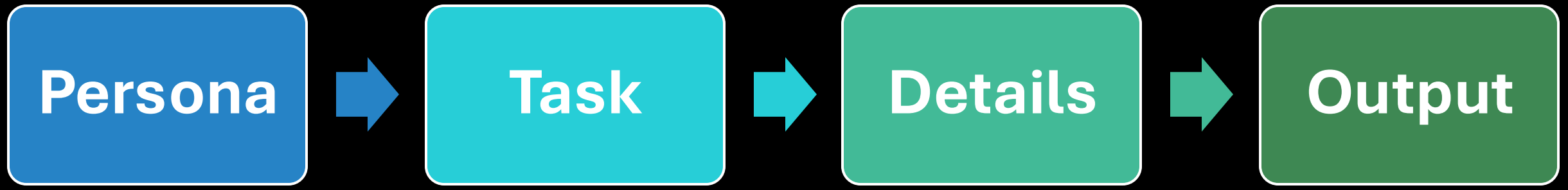
Visualize Information

ChatGPT:

ETHICAL CONSIDERATIONS

- Academic Integrity
- Data Privacy
- Bias
- Limitations

Structuring Prompts



Source: Google. (2024, October). *Gemini for Google Workspace: Prompting guide 101* (October 2024 edition). Google. https://services.google.com/fh/files/misc/gemini-for-google-workspace-prompting-guide-101.pdf

Structuring Prompts

Chain-of-Thought (CoT) Prompting

Break it down into steps.

Original Prompt:

"How has media convergence impacted the film industry, particularly in distribution and audience engagement?"

Revised Prompt:

“How has media convergence impacted the film industry, particularly in distribution and audience engagement? Think step by step before providing a final answer.”

Structuring Prompts

Multimodal

Original Prompt:

“Describe what is happening in this screenshot of Balatro”

Structuring Prompts

Multimodal

Original Prompt:

“Describe what is happening in this screenshot of Balatro.”

Revised Prompt:

“Use this framework to describe what is happening in this screenshot of Balatro –

- number of players

- points scored

- strategy advice

- value of jokers

- win/loss condition”

Activity

ChatGPT: DATA ANALYSIS

PROMPT

Assume the role of an industry analyst. Carefully look at the attached critic reviews for the movie Paddington in Peru. Help me analyze the data and please share: - the overall sentiment expressed by critics - the top 5 themes in the critic review - what was positive? anything negative? - can you also visualize the data?

Activity

ChatGPT:
DATA ANALYSIS

PROMPT

Role: Assume the role of an industry analyst specializing in film reviews and audience reception.
Task: Carefully analyze the attached critic reviews for *Paddington in Peru*.

Key Deliverables:
1. **Overall Sentiment Analysis** – Summarize the general tone and sentiment expressed by critics (e.g., positive, mixed, or negative).
2. **Top 5 Themes** – Identify and describe the five most frequently mentioned themes or aspects in the reviews.
3. **Positive vs. Negative Aspects** – Highlight the elements that critics praised and any criticisms they expressed.
4. **Data Visualization** – Provide visualizations (such as bar charts, word clouds, or sentiment breakdowns) to illustrate key insights from the review data.

Ensure that your analysis is clear, concise, and supported by data-driven insights.

Activity

ChatGPT: PROMPTS

Write your own!

Persona → **Task** → **Details** → **Output**

Assume the role of a restaurant owner. → Analyze the attached file containing restaurant reviews. → Incorporating these details… → Summarize top sentiments.

Source: Google. (2024, October). *Gemini for Google Workspace: Prompting guide 101* (October 2024 edition). Google. https://services.google.com/fh/files/misc/gemini-for-google-workspace-prompting-guide-101.pdf

Activity

SORA

Group Exercise

Video Generation

1. **Choose random genre + mood** (e.g., *sci-fi + nostalgic, horror + absurdist comedy, cartoon. + action-adventure*).

2. **Devise a prompt** (at least 1-2 sentences).
   → Refine it 1-2 times.

3. **See if you can predict the outcome.**
   Sketch out main beats.

6. Additional Resources

Resource:

List of GenAI Tools for Creative Industries

List of GenAI tools and platforms for the creative industries:

https://docs.google.com/spreadsheets/d/1GtcDe_pHE47KBrBH-24kJL_AFHCe6OAT/edit?usp=sharing&ouid=110750289651972566136&rtpof=true&sd=true

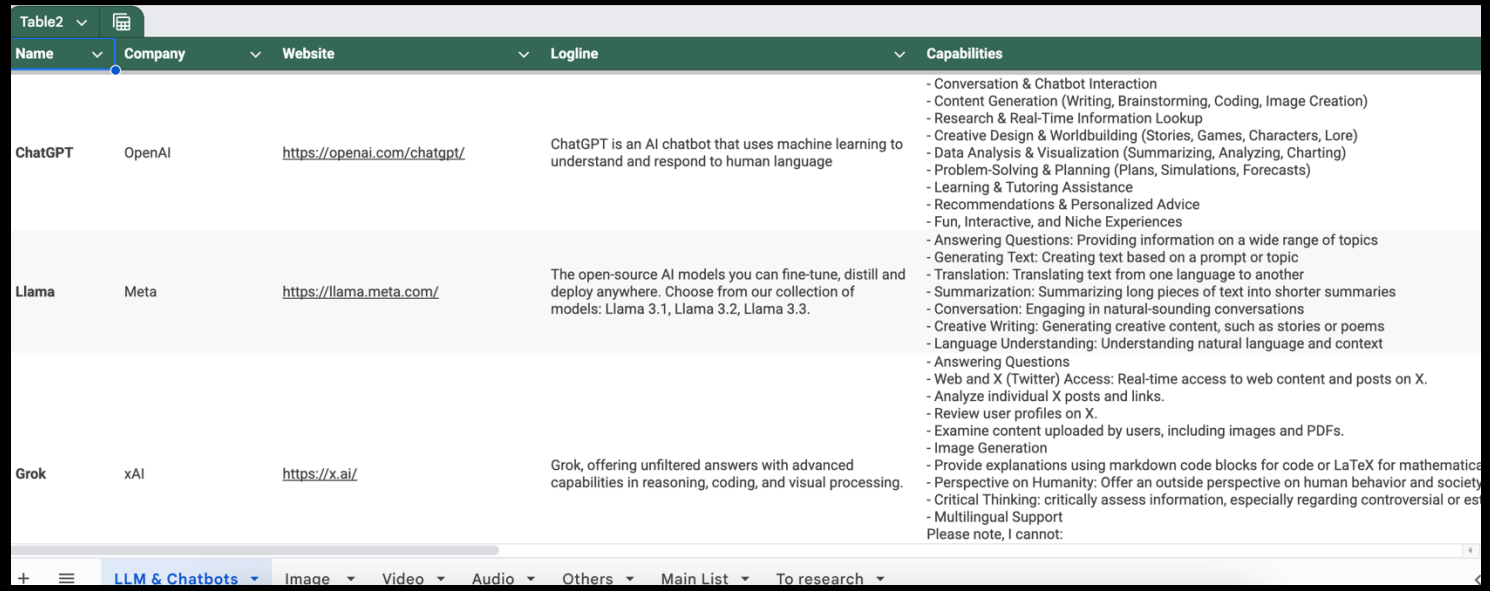


Table2

Name	Company	Website	Logline	Capabilities
ChatGPT	OpenAI	https://openai.com/chatgpt/	ChatGPT is an AI chatbot that uses machine learning to understand and respond to human language	- Conversation & Chatbot Interaction - Content Generation (Writing, Brainstorming, Coding, Image Creation) - Research & Real-Time Information Lookup - Creative Design & Worldbuilding (Stories, Games, Characters, Lore) - Data Analysis & Visualization (Summarizing, Analyzing, Charting) - Problem-Solving & Planning (Plans, Simulations, Forecasts) - Learning & Tutoring Assistance - Recommendations & Personalized Advice - Fun, Interactive, and Niche Experiences
Llama	Meta	https://llama.meta.com/	The open-source AI models you can fine-tune, distill and deploy anywhere. Choose from our collection of models: Llama 3.1, Llama 3.2, Llama 3.3.	- Answering Questions: Providing information on a wide range of topics - Generating Text: Creating text based on a prompt or topic - Translation: Translating text from one language to another - Summarization: Summarizing long pieces of text into shorter summaries - Conversation: Engaging in natural-sounding conversations - Creative Writing: Generating creative content, such as stories or poems - Language Understanding: Understanding natural language and context
Grok	xAI	https://x.ai/	Grok, offering unfiltered answers with advanced capabilities in reasoning, coding, and visual processing.	- Answering Questions - Web and X (Twitter) Access: Real-time access to web content and posts on X. - Analyze individual X posts and links. - Review user profiles on X. - Examine content uploaded by users, including images and PDFs. - Image Generation - Provide explanations using markdown code blocks for code or LaTeX for mathematica - Perspective on Humanity: Offer an outside perspective on human behavior and society - Critical Thinking: critically assess information, especially regarding controversial or es - Multilingual Support Please note, I cannot:

LLM & Chatbots | Image | Video | Audio | Others | Main List | To research

I work with my graduate assistants to update this list every semester.

Resources:

Free GenAI Training

BU AI Development Accelerator	https://www.bu.edu/aida/	
University of Michigan AI Repository	https://genai.umich.edu/	
OpenAI Academy	https://academy.openai.com	*"Unlock the new opportunities of the AI era by equipping yourself with the knowledge and skills to harness artificial intelligence effectively."*
Elements of AI	https://www.elementsofai.com	A free online course developed by the University of Helsinki and MinnaLearn, designed to teach the basics of AI to individuals without a technical background.
IBM Skillsbuild	https://skillsbuild.org	Free courses in AI, cybersecurity, data analysis, and more, with opportunities to earn IBM-branded digital credentials
Microsoft AI Learning Hub	https://learn.microsoft.com/en-us/ai/	Provides a range of AI learning resources, including modules and certifications, to help individuals and organizations build AI skills using Microsoft technologies.
Google AI Essentials	https://grow.google/ai-essentials/	Intro lessons.
HP AI for Beginners	https://www.life-global.org/course/391-ai-for-beginners	By Hewlett Packard, free
Harvard AI and Pedagogy	https://aipedagogy.org/	

https://docs.google.com/spreadsheets/d/1KluRpmMkZybYgitPKpAhsETISF2JXjcv-wt3ekCp-Z0/edit?usp=drive_link

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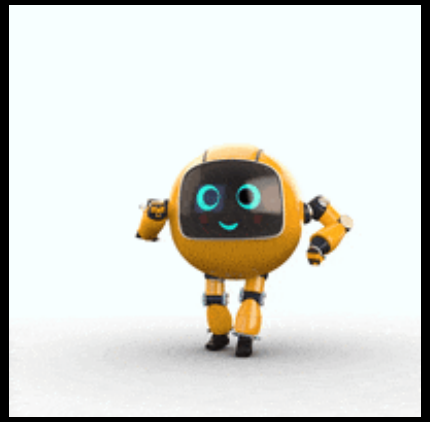
Unless otherwise noted, definitions are adapted from common usage in AI pedagogy and open-source educational materials. Some visual elements in this presentation were generated using GenAI tools for illustrative purposes.

Thank You.



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