

Introduction to Artificial Intelligence

What is AI?

Artificial Intelligence (AI) is the creation of computer systems that can simulate human intelligence to perform tasks.

In short, AI allows machines to:

- Learn from data.
- Reason and solve problems.
- Make decisions or take actions (like recognizing speech or driving a car).

What is Data Science?

Data Science is an interdisciplinary field that uses scientific methods, processes, algorithms, and systems to extract knowledge and insights from vast amounts of structured and unstructured data, in order to inform human decision-making and strategy.

In simpler terms: It's the entire process of getting useful, actionable knowledge out of raw data.

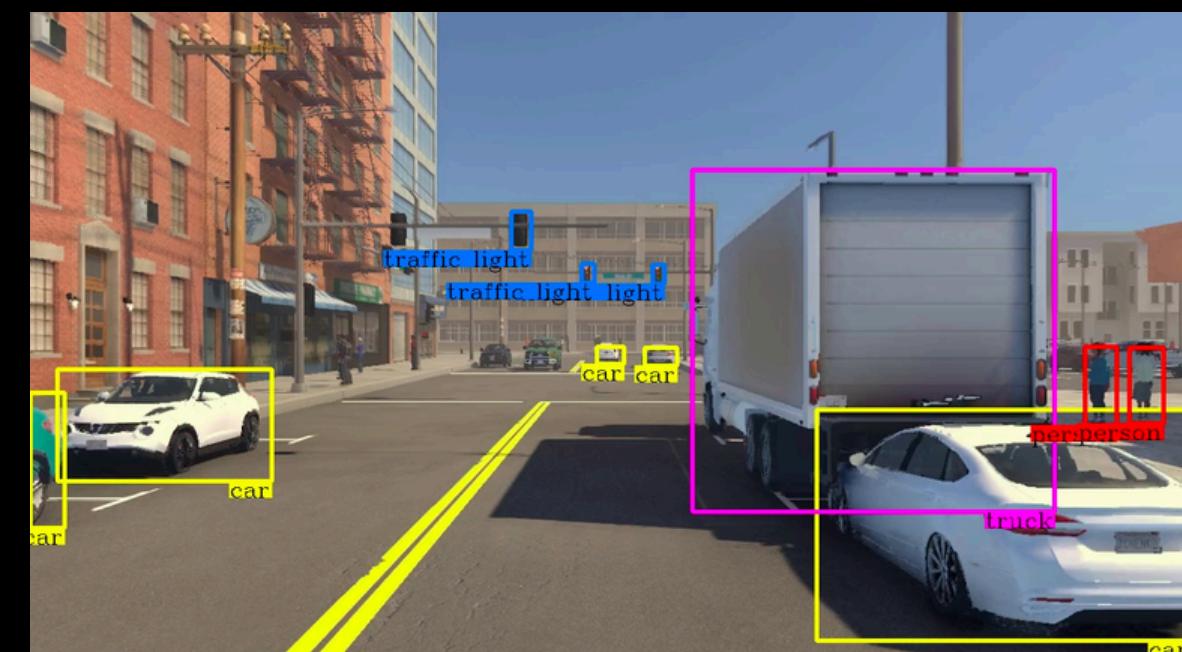
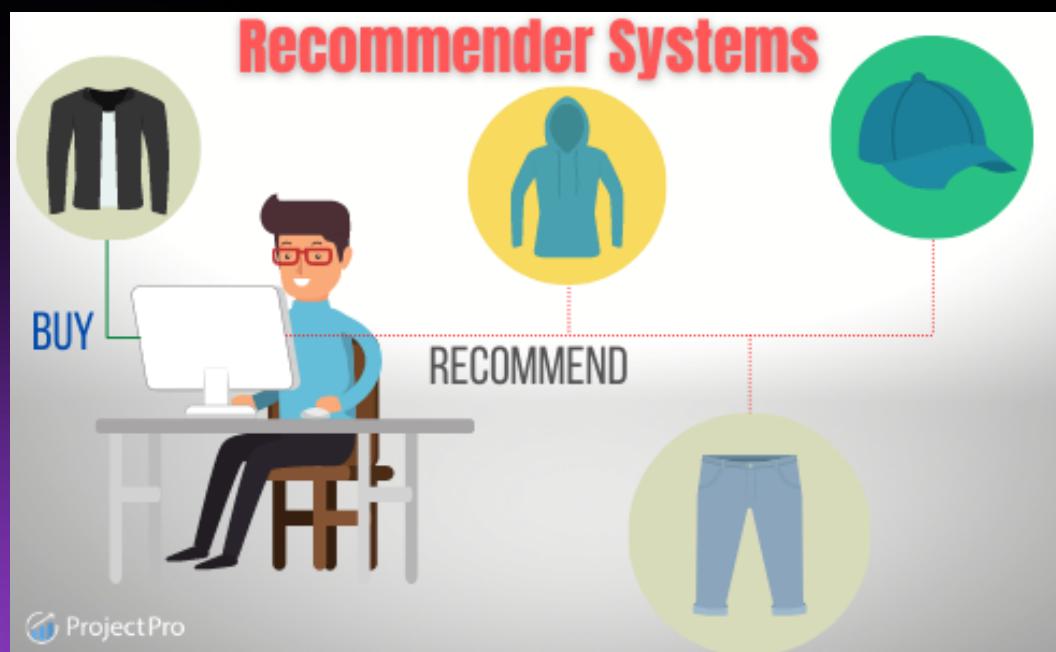
Career Opportunities:

- "The rise of AI/Data Science needs will create roughly 11.5 million job openings by 2026" **US Bureau of Labour Statistics**
- "By 2026, AI/Data Scientists and Analysts will become the number one emerging role in the world." **World Economic Forum**
- Data Science and Artificial Intelligence are amongst the hottest fields of the 21st century that will impact all segments of daily life by 2025, from transport and logistics to healthcare and customer service.

IMPORTANCE:

- Data science helps brands to understand their customers in a much enhanced and empowered manner.
- It allows brands to communicate their story in such a engaging and powerful manner.
- Data is a new field that is constantly growing and evolving.
- Its findings and results can be applied to almost any sector like travel, healthcare and education among others.
- Data science is accessible to almost all sectors.

Application of AI:

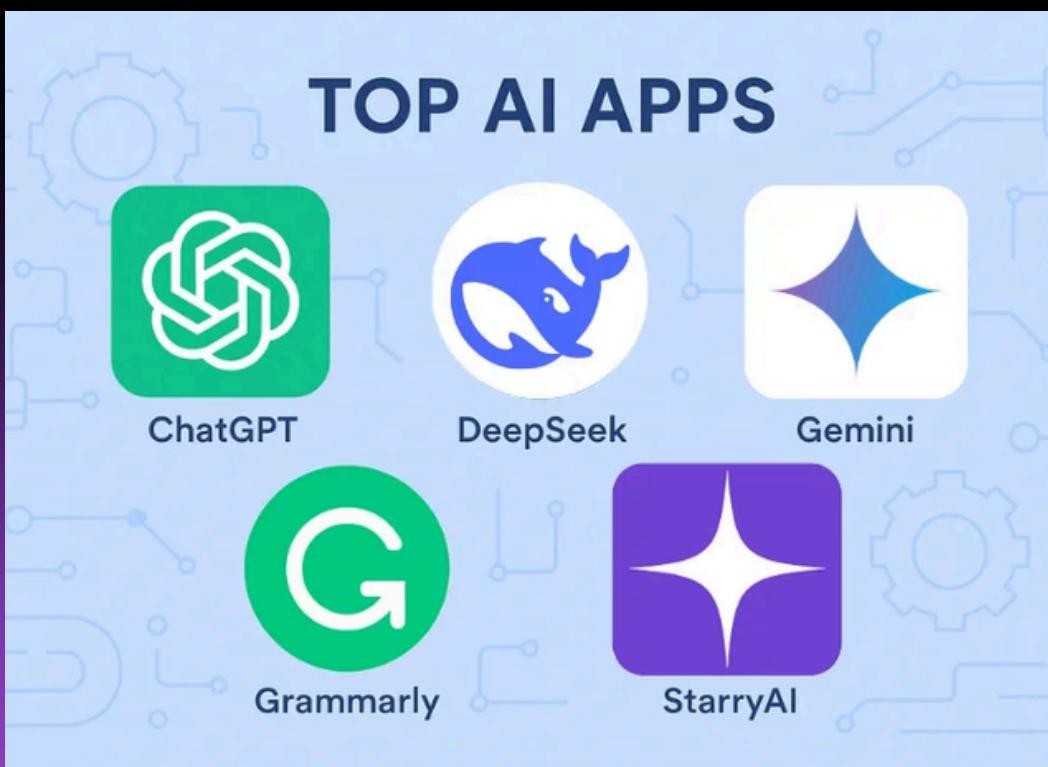
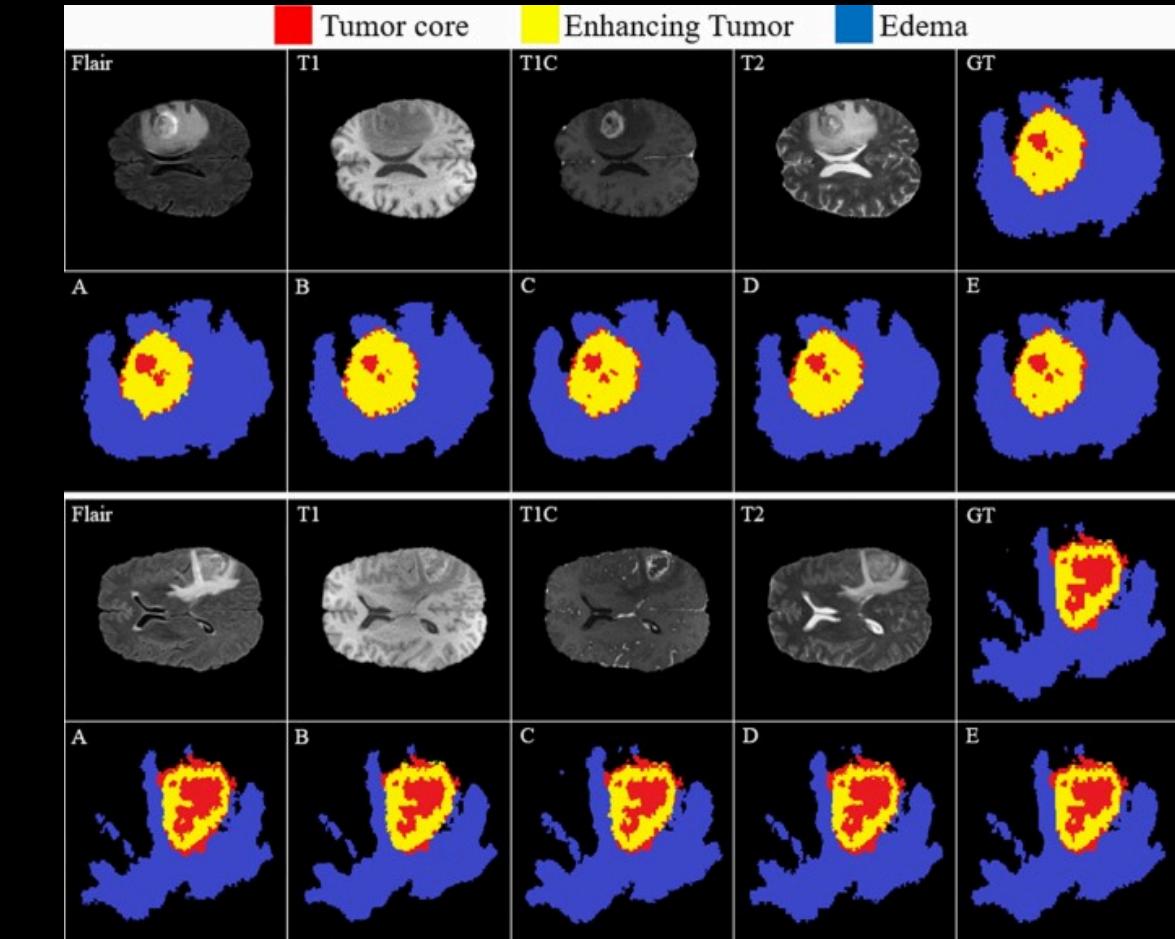


Application of AI:

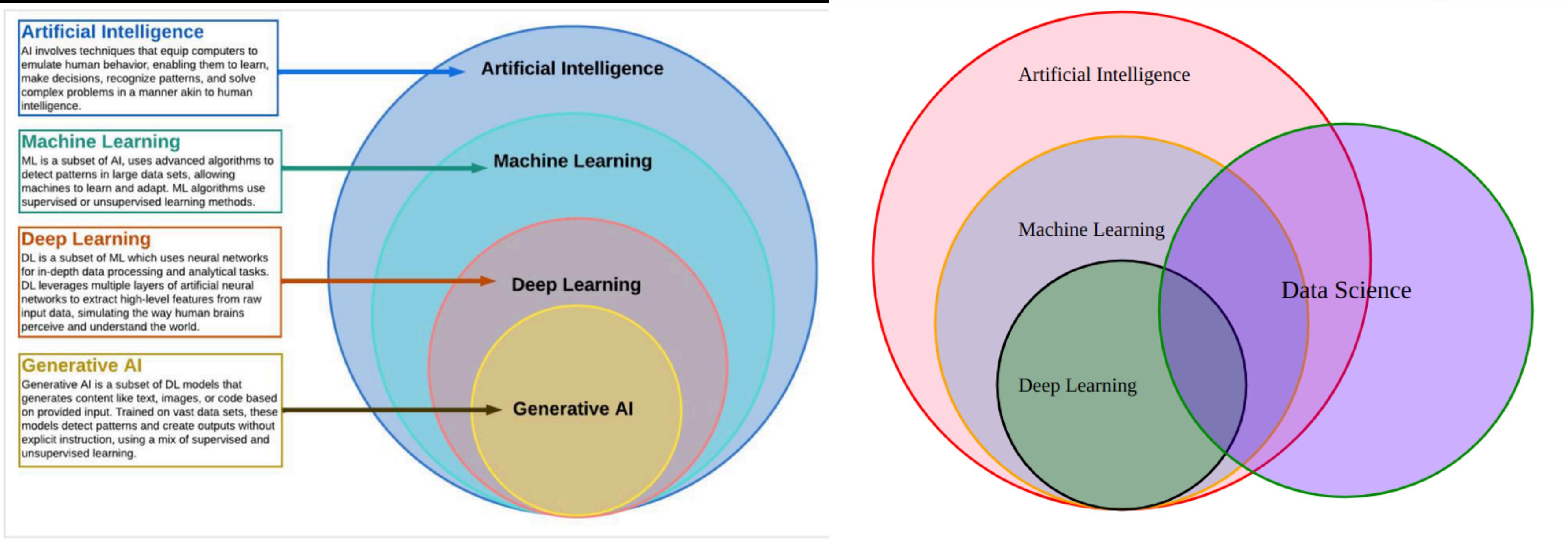
Conversational Agents 

2025 Update 

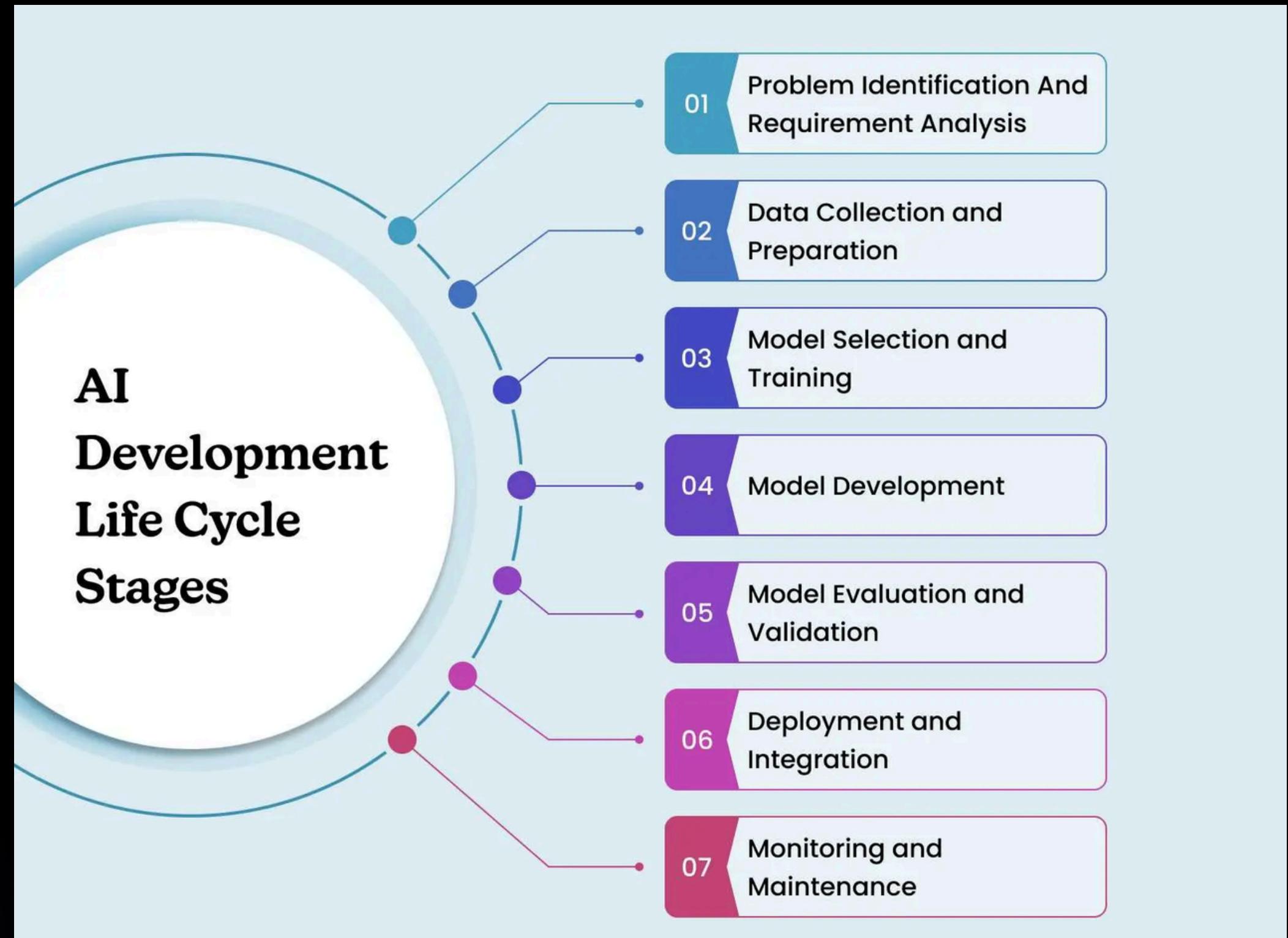
hi good morning
Buenos dias. (Spanish)
good evening sir
Good evening! How's the day treating you so far?
not bad. Bye
Agreed!



Artificial Intelligence



AI Project Development Life Cycle



Differnt Roles in AI:

- Data Analyst - Data analysis + AI insights
- Machine Learning Engineer - Predictive models, pipelines
- Deep Learning Engineer - Neural networks, CV, NLP
- NLP Engineer / LLM Engineer - Text, chatbots, RAG, fine-tuning
- Computer Vision Engineer - Images, video, 3D data
- Generative AI Engineer - Image/audio/text generation/RAG/Agents/MCP
- MLOps Engineer - Model optimization/deployment & monitoring
- AI Engineer/Data Scientist - Full AI stack (ML, DL, LLMs, MLOps)
- AI Research Engineer - Develop new algorithms & architectures