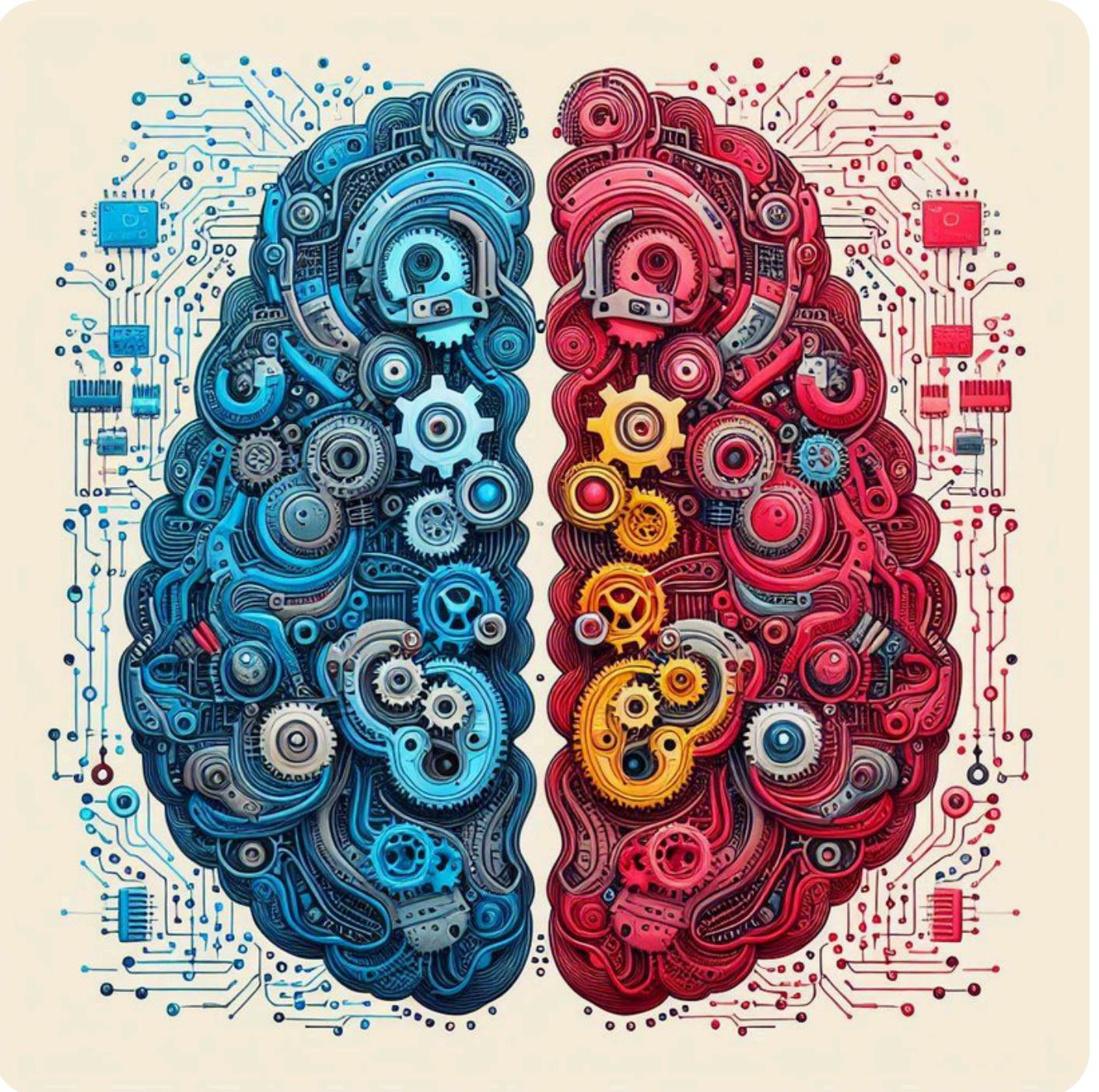


# Machine Learning

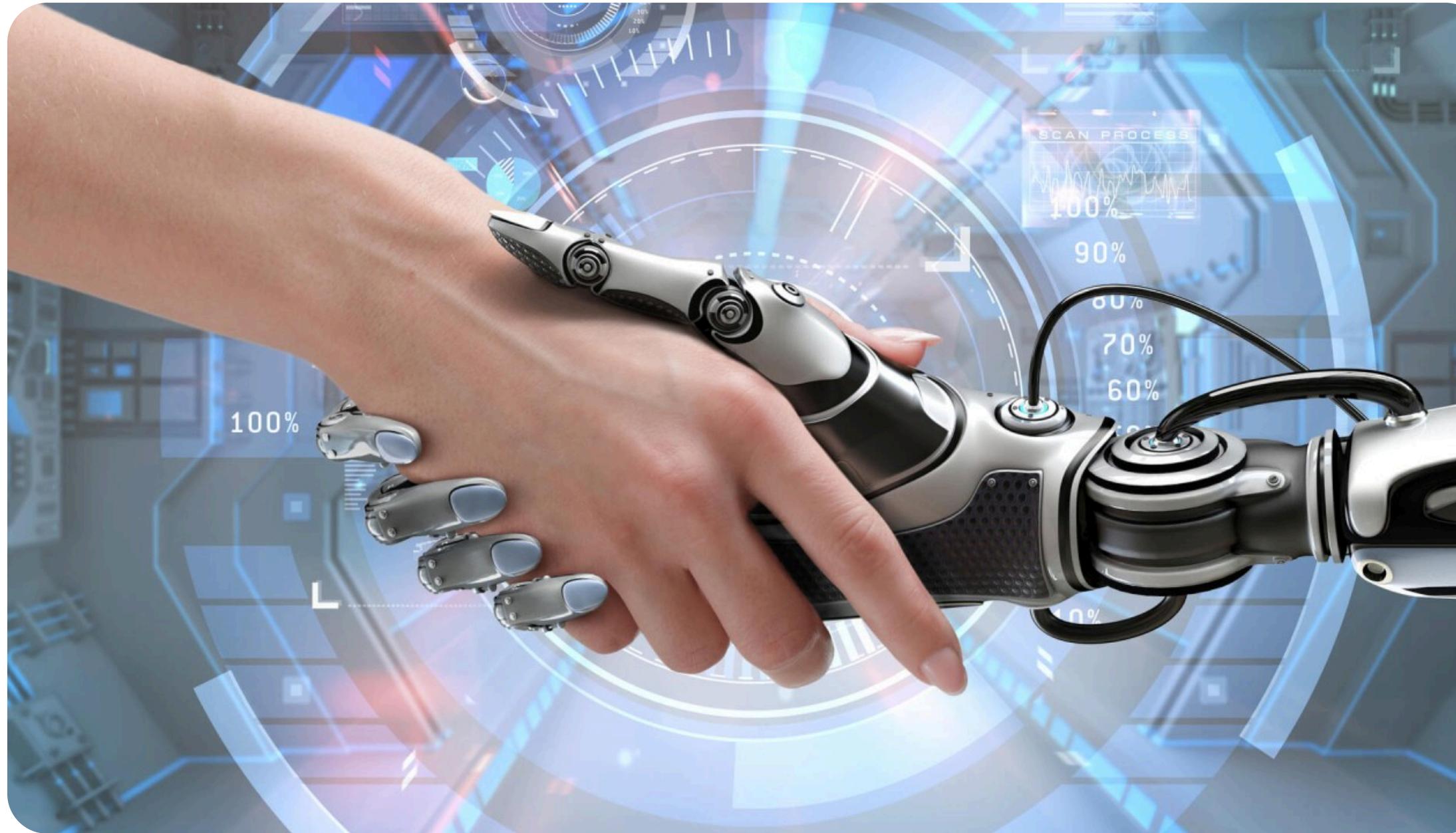


# AGENDA

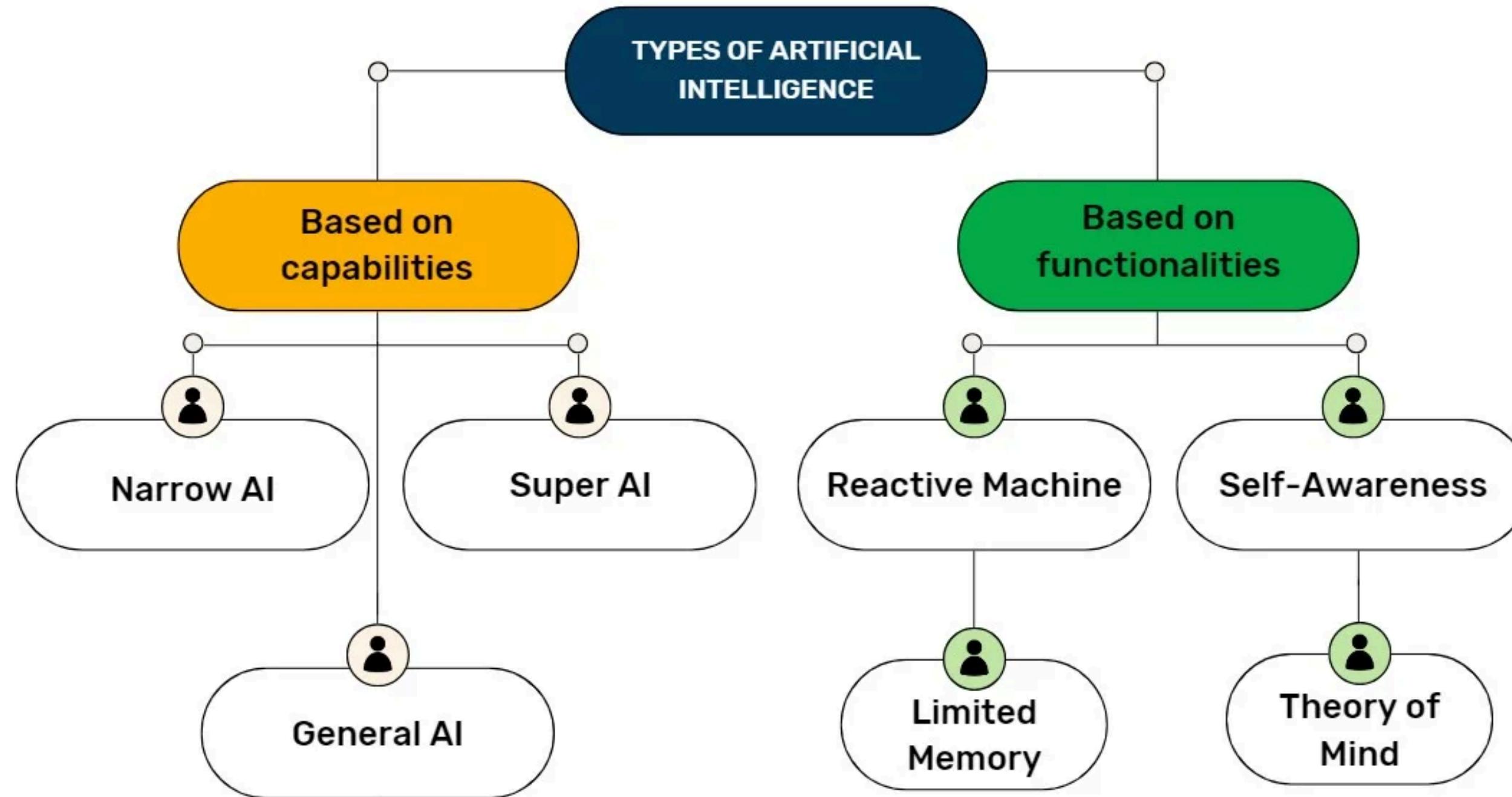
- Introduction to Artificial Intelligence
- Types of Artificial Intelligence
- AI vs ML vs DL
- Introduction to Machine Learning
- Importance of ML
- Integration of AI, ML & DL
- Python libraries & frameworks



# What is Artificial intelligence? What is Human intelligence?



# Types of Artificial Intelligence



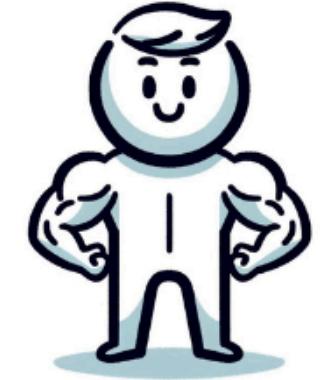
# AI type-1: Based on Capabilities (ANI, AGI & ASI)

## 3 Stages of AI



### Narrow AI

Weak AI specializes in single tasks.



### General AI

Strong AI matches human intellect broadly.



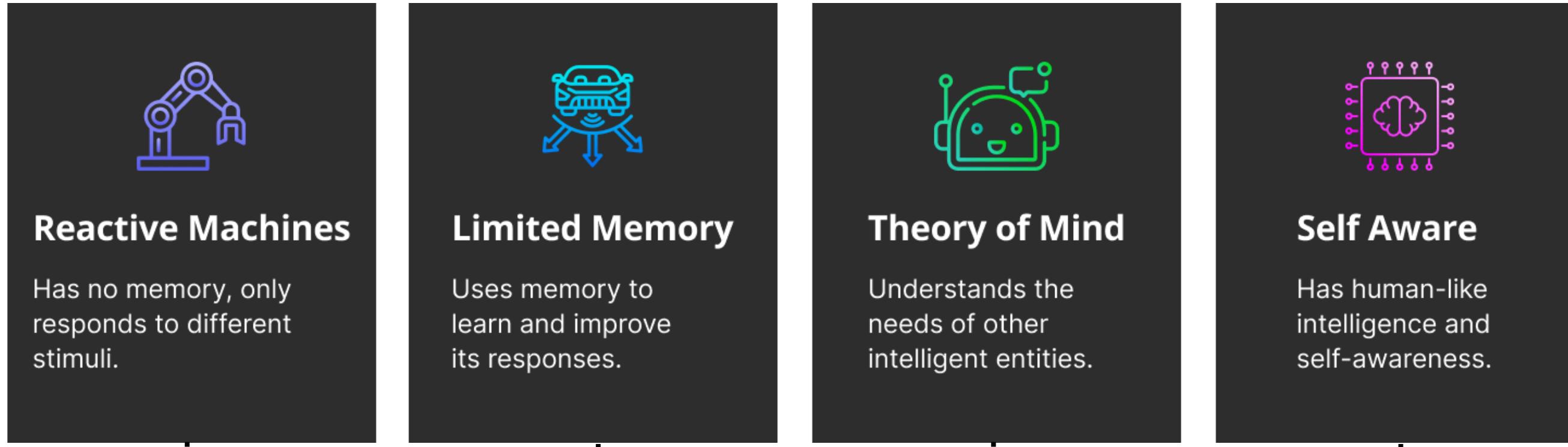
### Super AI

Superintelligent AI may surpass all human abilities.



**Currently, Technology is here.**

# AI type-2: Based on functionality



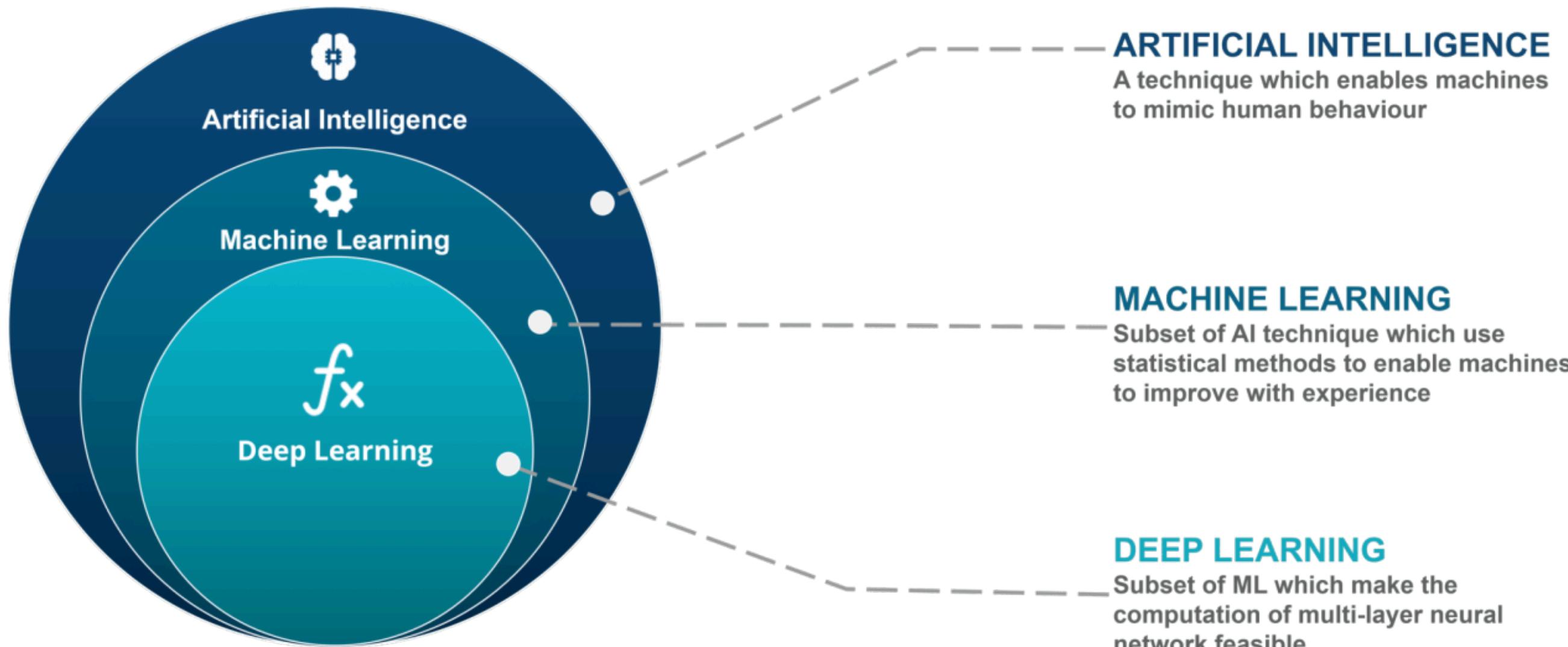
Factory robot

Chatbots & virtual assistants

Self-driving cars & facial recognition systems

Drones, medical robots, and autonomous weapons systems

# AI vs ML vs DL

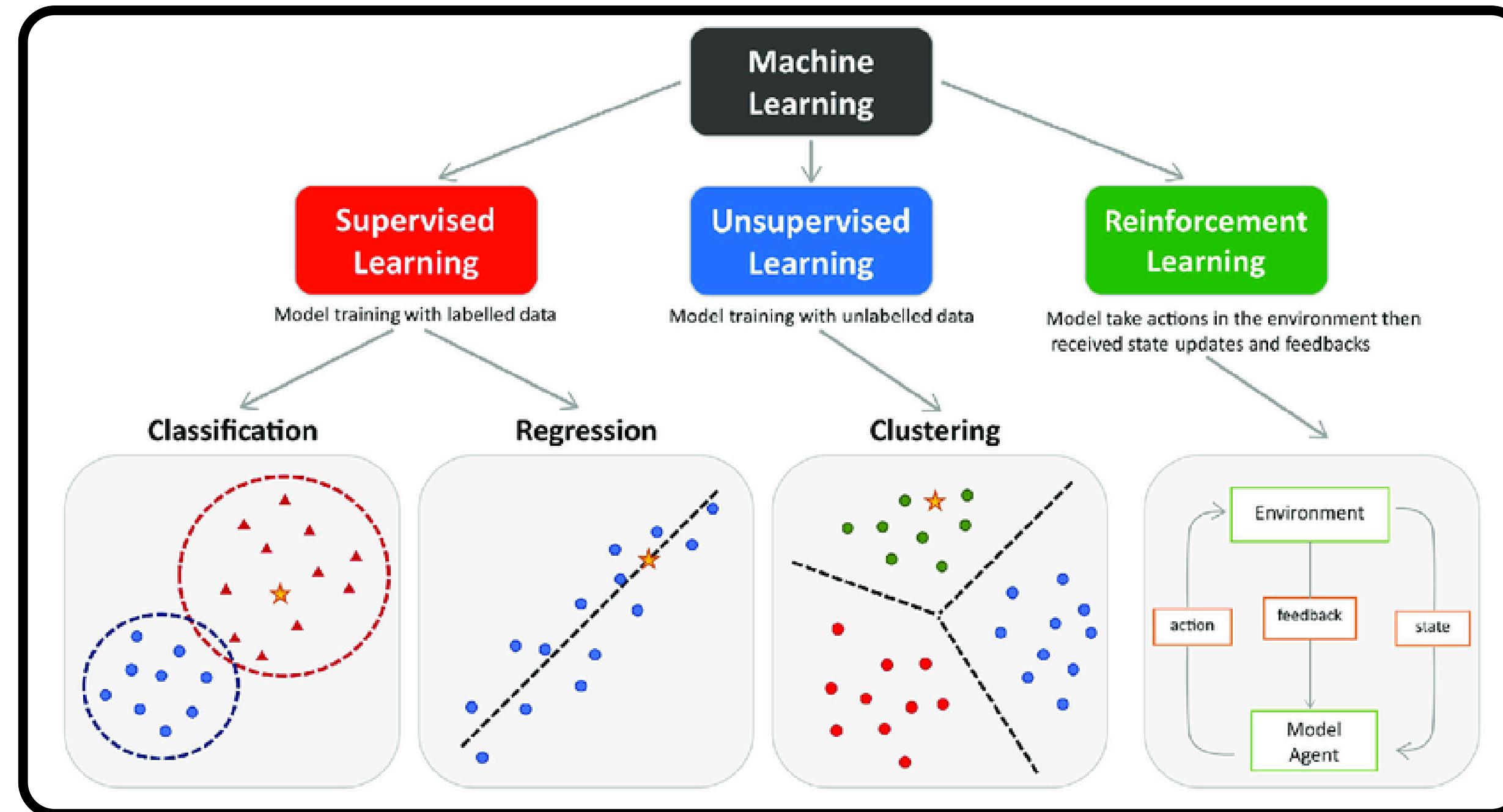


# Machine Learning

Machine Learning (ML) is a **subset of Artificial Intelligence (AI)** that empowers systems to learn and improve from experience. It involves the *development of algorithms that enable machines to make predictions or decisions based on data.*

## Types of ML:

- Supervised learning
- Unsupervised learning
- Reinforcement learning



# What are the Key Benefits of Machine Learning?

# Key Benefits of Machine Learning

## Automation and Efficiency - Supply Chain Optimization

- ML is employed in supply chain management to **automate and optimize processes, improving overall efficiency.**
- ML algorithms analyze historical data, predict demand fluctuations, and optimize inventory levels.
- Automation is applied to reorder supplies, manage transportation routes, and streamline logistics.



# Key Benefits of Machine Learning

## Data-Driven Insights - Predictive Maintenance in Manufacturing.

- ML is employed in manufacturing to **predict equipment failures and schedule maintenance proactively**.
- Sensors on machinery collect data, and ML algorithms analyze patterns to predict potential breakdowns.
- Maintenance schedules are optimized based on predictive insights, reducing unplanned downtime.



# Key Benefits of Machine Learning

## Personalization and User Experience - Streaming

### Recommendations in Entertainment

- ML is used in streaming platforms to **personalize content recommendations for users.**
- Algorithms analyze viewing history, preferences, and behaviors to suggest tailored content.
- Recommendations continuously evolve based on user interactions and feedback.



# Key Benefits of Machine Learning

## Predictive Analytics - Credit Scoring in Finance

- ML is utilized in the finance industry to assess **credit risk and predict the likelihood of loan default.**
- Algorithms analyze historical financial data, transaction patterns, and credit history.
- Predictive models assess the creditworthiness of applicants, informing lending decisions.



# What are ML Applications?

# Integration of AI, ML, and DL

## Smart Assistants (e.g., Siri, Google Assistant):

- AI for natural language understanding.
- ML for personalized responses based on user behavior.
- DL for speech recognition and synthesis.

## Healthcare Diagnostics:

- AI expert systems for diagnosis.
- ML for predicting disease outcomes.
- DL for image analysis in medical imaging.

## Autonomous Vehicles:

- AI for decision-making and planning.
- ML for predicting and adapting to traffic patterns.
- DL for image and object recognition in real-time.

# Python libraries & frameworks



# THANK YOU



<https://www.thesmartbridge.com/>

**Subscribe us for more Updates**



[TheSmartbridge](#)

