MACHINE LEARNING

Teaching computers to learn from data.

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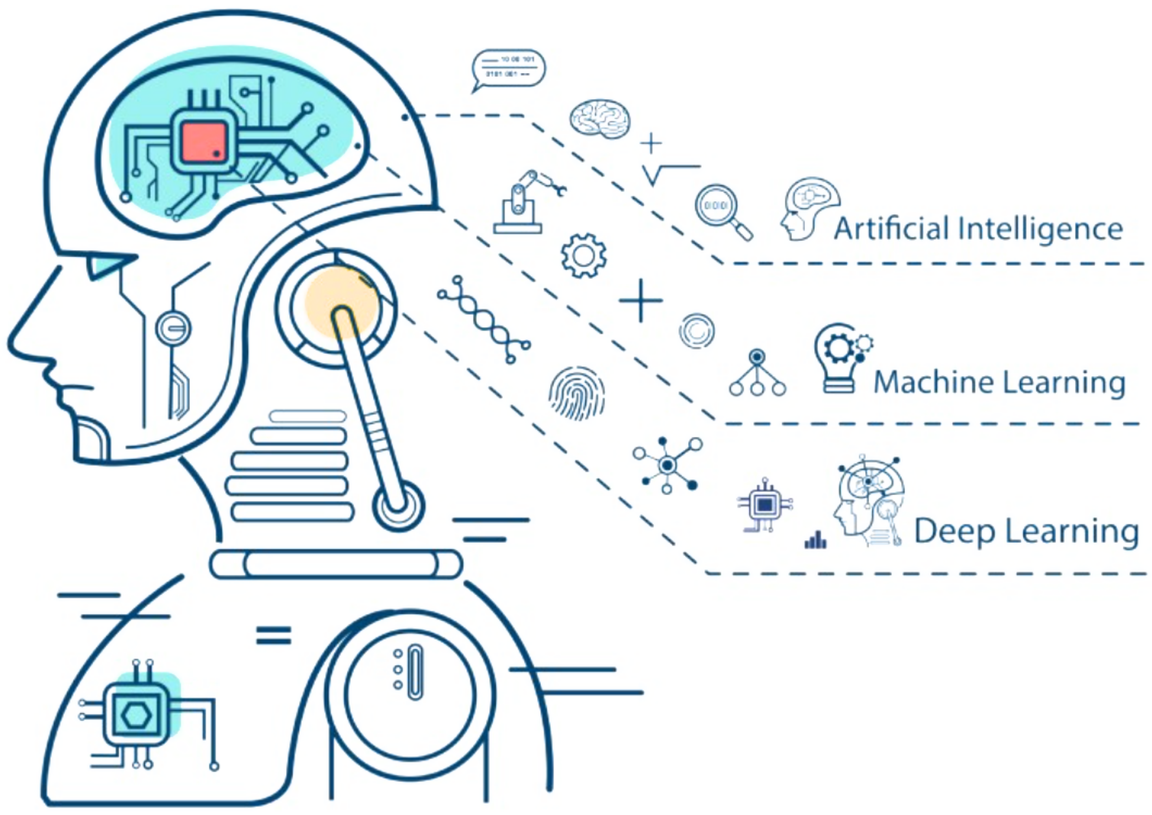
WHAT IS IT?

Machine learning empowers computers to learn from data, enabling them to predict outcomes and make decisions with minimal human intervention.



APPLICATIONS

Machine learning is a crucial component of artificial intelligence, allowing systems to learn from data and improve over time without being explicitly programmed.

ChatGPT

Siri

Applications of Machine Learning

By analyzing the structure and characteristics of faces, algorithms can recognize individuals and match them with known identities.

Based on Learning Paradigm

Supervised Learning

- Labeled datasets
- Predictive modeling
- Classification and regression tasks

Unsupervised Learning

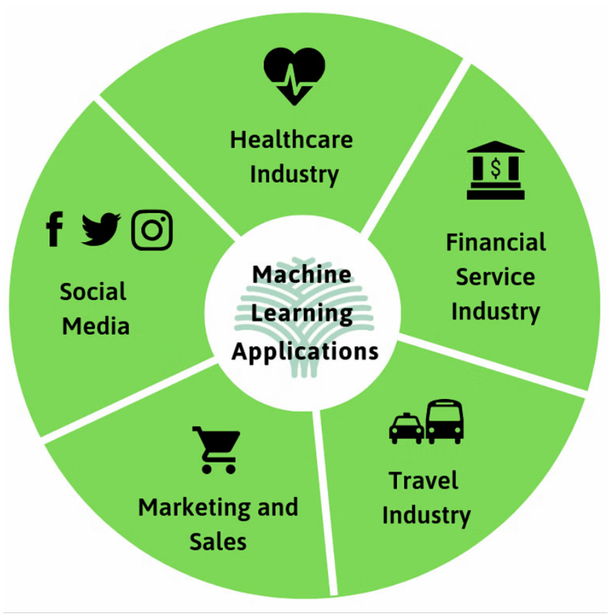
- Unlabeled data
- Pattern and structure discovery
- Clustering and dimensionality reduction

Semi-Supervised Learning

- Mix of labeled and unlabeled data
- Improves learning accuracy
- Useful when labeling is costly

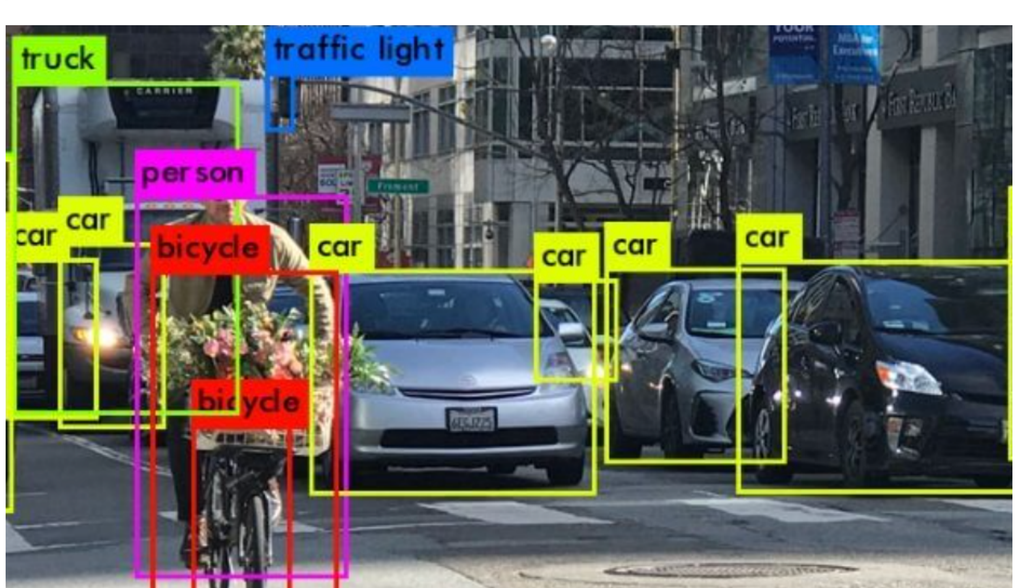
Reinforcement Learning

- Learning through interaction
- Maximizes cumulative reward
- Applications in gaming, robotics



WHY DO WE NEED IT?

Machine learning enhances decision-making, automates repetitive tasks, and unlocks insights from data, making technology more efficient and personalized to our needs.



Identifying and categorizing objects within images, enabling applications like autonomous vehicles and surveillance systems.