

Artificial Intelligence is a field of computer science focused on creating systems capable of performing tasks that typically require human intelligence. This includes problem-solving, understanding language, recognizing patterns, and learning from experience.

Machine Learning is a subset of AI where models learn patterns from data to make predictions or decisions.

Types of Machine Learning

1. Supervised Learning

Definition: Uses labeled data to train models.

Examples: Email spam detection, stock price prediction.

Algorithms: Linear Regression, Decision Trees.

2. Unsupervised Learning

Definition: Finds patterns in unlabeled data.

Examples: Customer segmentation, anomaly detection.

Algorithms: K-Means Clustering, PCA.

3. Reinforcement Learning

Definition: An agent learns by interacting with an environment and receiving rewards or penalties.

Examples: Robotics, game-playing AI.

Concepts: Agent, Environment, Reward.