

### Introduction to Artificial Intelligence (AI)

- Artificial Intelligence (AI) is the field of creating machines that can simulate human intelligence.
- AI enables systems to perform tasks like reasoning, learning, planning, perception, and natural language processing.
- Common examples: Siri, Alexa, self-driving cars, recommendation systems.

#### Types of AI:

1. Narrow AI - Performs a specific task (e.g., Google Translate).
2. General AI - Performs any intellectual task that a human can do.
3. Super AI - Hypothetical AI that surpasses human intelligence.

### Introduction to Machine Learning (ML)

- Machine Learning is a subset of AI that allows computers to learn from data and improve over time.
- ML systems identify patterns and make decisions with minimal human intervention.

Types of ML:

1. Supervised Learning - Uses labeled data (e.g., spam detection).
2. Unsupervised Learning - Finds patterns in unlabeled data (e.g., customer segmentation).
3. Reinforcement Learning - Learns through trial and error (e.g., game-playing bots).

Applications: Fraud detection, stock prediction, image recognition, speech recognition.