Introduction to Artificial Intelligence

1. What is AI?

Artificial Intelligence (AI) refers to the simulation of human intelligence in machines. AI systems can perform tasks

that typically require human intelligence, such as problem-solving, learning, and decision-making.

2. Types of AI

AI can be classified into three main types:

- Narrow AI (Weak AI): Designed for specific tasks (e.g., voice assistants, recommendation systems).
- General AI (Strong AI): Hypothetical AI capable of human-like reasoning.
- Super AI: A future AI surpassing human intelligence.

3. Machine Learning & Deep Learning

- Machine Learning (ML): A subset of AI where models learn patterns from data.
- Deep Learning (DL): A subfield of ML using neural networks to process complex data (e.g., image recognition, NLP).

4. AI Applications

AI is used in various fields, including:

- Healthcare: Diagnosing diseases, drug discovery.
- Finance: Fraud detection, algorithmic trading.
- Education: Personalized learning, AI tutors.
- Autonomous Systems: Self-driving cars, robotics.

5. Challenges & Ethical Considerations

While AI offers numerous benefits, it also raises concerns such as data privacy, bias in algorithms, and ethical AI governance.