

What is AI?

Artificial Intelligence (AI) is a branch of computer science that focuses on creating machines or software that can **think, learn, and make decisions like humans**. AI systems can solve problems, recognize patterns, understand language, and make predictions.

Difference between AI, ML, and DL

| Feature | AI (Artificial Intelligence) | ML (Machine Learning) | DL (Deep Learning) |
|-----------------|-------------------------------------|--|-------------------------------------|
| Meaning | Broad concept of smart machines | Subset of AI that learns from data | Subset of ML using neural networks |
| Goal | Mimic human intelligence | Learn patterns & improve automatically | Learn complex patterns using layers |
| Data dependency | May or may not need data | Needs data | Needs large amounts of data |
| Examples | Chatbots, rule-based systems | Spam detection, recommendations | Face recognition, voice assistants |
| Techniques | Rules, logic, ML, DL | Regression, classification | Neural networks, CNN, RNN |

3 Real-Life Applications of AI

1. Virtual Assistants

- Examples: Siri, Alexa, Google Assistant
- Use AI to understand voice commands and respond intelligently.

2. Recommendation Systems

- Examples: Netflix, YouTube, Amazon
- Suggest movies, videos, or products based on user behavior.

3. Healthcare

- Disease detection, medical image analysis, chatbots for patients
- Helps doctors make faster and more accurate diagnoses.