

# Introduction to Artificial Intelligence and Machine Learning

Artificial Intelligence (AI) and Machine Learning (ML) are revolutionizing industries by enabling machines to learn from data and make intelligent decisions.

## Key Concepts:

### 1. Artificial Intelligence:

- The simulation of human intelligence in machines.
- Includes reasoning, learning, and self-correction.

### 2. Machine Learning:

- A subset of AI that uses statistical techniques to give machines the ability to learn from data.
- Types: Supervised, Unsupervised, Reinforcement Learning.

### 3. Applications of AI/ML:

- Healthcare: Diagnosis, drug discovery.
- Finance: Fraud detection, algorithmic trading.
- Retail: Recommendation systems, demand forecasting.
- Autonomous vehicles, Natural Language Processing, Robotics.

## Popular ML Libraries:

- Scikit-learn
- TensorFlow
- PyTorch
- XGBoost

## Conclusion:

AI and ML are critical for building intelligent systems and solving real-world problems. Learning these technologies can open doors to various high-impact careers in data science, automation, and more.