

## Introduction to Machine Learning

Machine Learning is a subset of artificial intelligence that enables computers to learn and make decisions from data.

There are three main types of Machine Learning: Supervised Learning, Unsupervised Learning, and Reinforcement Learning.

Supervised Learning uses labeled data to train models. Common algorithms include Linear Regression, Decision Trees, and Support Vector Machines.

Unsupervised Learning finds patterns in data without labeled responses. Common techniques include Clustering, Association Rule Mining, and Anomaly Detection.

Deep Learning is a subset of Machine Learning that uses neural networks with multiple layers to model complex relationships in data.

Prerequisites for understanding Machine Learning include Mathematics, Statistics, and Programming skills.

Common applications of Machine Learning include Image Recognition, Natural Language Processing, and Recommendation Systems.

A common misconception is that Machine Learning can fully replace human intelligence, but it is designed to assist and complement human decision-making.