Introduction to Machine Learning

Machine learning is a subset of artificial intelligence that enables systems to learn and improve from experience without being explicitly programmed.

Supervised Learning is when the algorithm learns from labeled training data to make predictions.

Unsupervised Learning is when the algorithm finds hidden patterns in unlabeled data.

Reinforcement Learning is when an agent learns optimal behavior through trial and error with rewards.

Neural networks are computing systems inspired by biological neural networks in the brain.

Deep learning uses multiple layers of neural networks to process and learn from complex data.

Common applications include image recognition, natural language processing, recommendation systems, and autonomous vehicles.