

Key Concepts

• Machine Learning (ML)

A subfield of Artificial Intelligence (AI) that concentrates

on enabling computer systems to learn patterns and make

• Supervised Learning

A machine learning paradigm where the algorithm learns from a

labeled dataset, meaning each input example is paired with

• Unsupervised Learning

A machine learning paradigm that works with unlabeled data,

aiming to discover hidden patterns, structures, or features

• Reinforcement Learning

A machine learning paradigm where an autonomous agent learns

to make optimal decisions by interacting with an environment,

receiving rewards for desired actions and penalties for

undesirable ones. The learning process is driven by

Summary Points

1. Definition and Scope of Machine Learning

Machine learning (ML) is a specialized area within

Artificial Intelligence (AI).

This learning process allows systems to enhance

2. Primary Paradigms of Machine Learning

Supervised learning involves training models on

datasets where inputs are associated with known,

correct outputs (labeled data), to learn a mapping.

Reinforcement Learning: Centers on an agent learning optimal behaviors through interaction with

Visual Elements