**Abstract**

Machine learning focuses on developing algorithms that can automatically find patterns in large datasets and improve their performance with experience. These algorithms are widely used for tasks such as pattern recognition, prediction, classification, and decision-making in domains like finance, healthcare, marketing, and automation. By leveraging statistical models, machine learning enables computers to handle complex problems such as image recognition, speech processing, and recommendation systems more efficiently than traditional rule-based programs.​

**Keywords**

Machine learning; Artificial intelligence; Algorithms; Data mining; Pattern recognition; Classification; Prediction; Neural networks; Supervised learning; Unsupervised learning.​