Fundamental Aspects of Machine Learning and their Practical Applications

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Abstract: *This paper explores the three core domains of machine learning: supervised learning, unsupervised learning, and reinforcement learning. It provides an in-depth analysis of popular machine learning techniques, including decision trees, random forests, artificial neural networks, support vector machines (SVMs), as well as boosting and bagging algorithms, and backpropagation methods. The goal is to enhance public understanding of machine learning and accelerate its adoption through the establishment of theoretical frameworks, advancements in autonomous learning abilities, integration of various digital technologies, and the promotion of tailored services.*

Keywords: machine learning.