

# Machine Learning

**Venkata Mahesh Babu Batta**

<https://orcid.org/0000-0002-1029-6402>

M.Tech, Department of CSE,

University College of Engineering, Osmania University, Hyderabad, Telangana, India

**Abstract:** *Machine learning (ML) is a field of artificial intelligence (AI) that focuses on the development of algorithms and statistical models that enable computers to perform tasks without explicit programming instructions. This paper provides an overview of machine learning, covering key concepts, techniques, and applications. We discuss various types of machine learning approaches, including supervised learning, unsupervised learning, and reinforcement learning, along with their respective algorithms and use cases. Additionally, we explore fundamental concepts such as model training, evaluation, and deployment, as well as emerging trends such as deep learning and transfer learning. Through this review, we aim to offer a comprehensive introduction to machine learning, catering to both beginners and seasoned practitioners, and highlight its significance in advancing AI-driven solutions across diverse domains.*

**Keywords:** Machine Learning(ML), Artificial Intelligence(AI), Python

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