Unsupervised Learning

Unsupervised Learning is a machine learning paradigm where models are trained on unlabeled data without explicit supervision. The goal is to discover patterns, structures, or relationships within the data without predefined categories or labels. Unsupervised learning techniques include clustering, dimensionality reduction, anomaly detection, and density estimation. They are used to explore and uncover hidden insights in data, segment populations, and identify outliers or anomalies. Unsupervised learning has applications in exploratory data analysis, customer segmentation, recommendation systems, and anomaly detection in cybersecurity.