

Diary Entry - Week 11

Date: 23-09-2024 to 27-09-2024

Summary:

Week 11 was a dynamic exploration into various clustering algorithms, graph analysis, and recurrent neural networks (RNNs), enhancing understanding and proficiency in machine learning and deep learning methodologies.

Clustering Algorithms:

- Delved into the principles and applications of K-Means clustering, hierarchical clustering, BIRCH, and DBSCAN algorithms.
- Explored the underlying mechanisms of each algorithm and their suitability for different types of datasets, gaining insights into the clustering process and its significance in unsupervised learning.

Introduction to Graph Analysis:

- Received an introduction to graph analysis, understanding the representation of data in graph structures and the application of graph algorithms in various domains.
- Explored fundamental graph concepts such as nodes, edges, and properties, laying the groundwork for deeper exploration into graph-based machine learning algorithms.

Recurrent Neural Networks (RNNs):

- Introduced to recurrent neural networks (RNNs), a powerful class of artificial neural networks capable of processing sequential data.
- Explored the architecture and working principles of RNNs, understanding their applications in natural language processing (NLP), time series analysis, and other sequential data tasks.

Coding Challenge - Week 7:

- Participated in the coding challenge focusing on K-Means clustering and hierarchical clustering algorithms.
- Applied theoretical knowledge to practical coding exercises, implementing clustering algorithms on sample datasets and evaluating their performance.