In Week 3: NumPy and Pandas for Data Manipulation
In this module, we explored the fundamentals of NumPy and Pandas for efficient data manipulation. With NumPy, we learned how to create and operate on arrays, perform broadcasting, reshape data, and use mathematical functions for numerical operations. In Pandas, we practiced creating and handling Series and DataFrames, inspecting data using functions like .info() and .describe(), filtering using boolean indexing, and handling missing data through dropna() and fillna(). We also performed advanced data manipulation such as grouping with groupby(), aggregating data, sorting, merging, and joining DataFrames. Additionally, we practiced reading from and writing to CSV files using read_csv() and to_csv(). The hands-on exercises reinforced concepts like data cleaning, EDA, and aggregation, providing a solid foundation for real-world data analysis tasks.