SIMATS ENGINEERING

Saveetha Institute of Medical and Technical Sciences
Chennai- 602105

Engineer to Excel

Student Name: GOGIREDDY VENKATA GOUTHAM REDDY **Reg. No.:** 192324265

Course Code: DSA0613 **Slot:** A

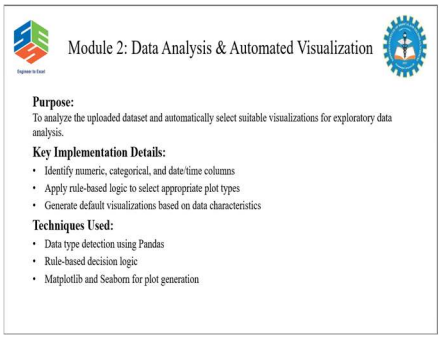
Course Name: Data Handling and Visualization for Data Analytics

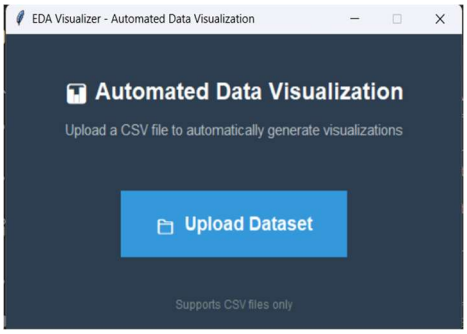
Course Faculty: Dr. Kumaragurubaran & T Dr. Senthilvadivu S

Project Title: Design & Implementation of an Automated Data Visualization System for Exploratory Data Analysis

Module 2: Automated Visualization Engine

Module Photographs: (3 photographs –Module Photo, Individual student contribution module work in the project and presentation image)





Project Description: (here you write what you did in this project (contribution) including Model Description

The design and implementation of an automated data visualization system play a crucial role in simplifying exploratory data analysis by reducing the need for manual intervention. Such a system is designed to accept raw datasets and automatically perform essential preprocessing tasks, including data cleaning, detection of missing values, and identification of variable types. This automation ensures consistency and saves time, allowing analysts to focus more on interpretation rather than preparation.Once preprocessing is complete, the system analyzes the dataset to compute basic statistical measures such as mean, median, variance, and correlations. Based on these insights, it intelligently selects suitable visualization techniques. Common visual outputs include histograms for distribution analysis, box plots for identifying outliers, scatter plots for relationship exploration, and heatmaps for correlation patterns. These visualizations help users quickly understand data trends and anomalies. The system is designed to be dynamic and adaptable, updating visualizations automatically when the underlying data changes. Its architecture emphasizes scalability and modularity, making it suitable for large and complex datasets.

Student Signature **Guide Signature**