



SIMATS ENGINEERING

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Course Code: DSA0613

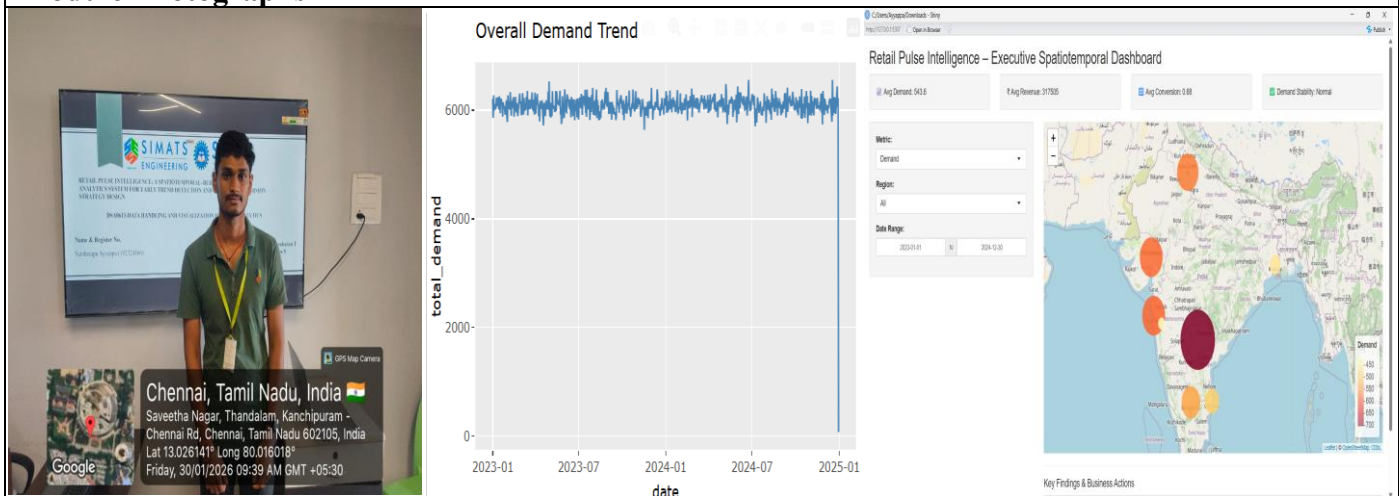
Slot: B

Course Name: Data Handling and Visualization for Data Analytics

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

Project Title: Retail Pulse Intelligence: A Spatiotemporal-Behavioural Visual Analytics System for Early Trend Detection and Adaptive Conversion Strategy Design.

Module Photographs:



Project Description: HUMAN-IN-THE-LOOP MODULE

Modern retail environments operate in a highly dynamic and competitive landscape where customer demand and purchasing behavior vary significantly across time and geographic locations. Retailers generate large volumes of multimodal data from sales transactions, customer interactions, and location-based activities; however, this data is often analyzed in isolation using traditional business intelligence tools. Such approaches lack the capability to capture spatiotemporal patterns and behavioral shifts in a timely manner, resulting in delayed trend identification, inaccurate demand forecasts, and inefficient inventory and pricing decisions. Additionally, the absence of integrated behavioral intelligence and explainable analytics makes it difficult for decision-makers to understand the underlying drivers of changes in demand and conversion performance. Consequently, retailers face challenges in responding proactively to emerging trends, optimizing conversion strategies, and maintaining operational efficiency in rapidly changing market conditions.

Student Signature

Guide Signature