# CAPSTONE PROJECT 2024

## Title: Algorithm Visualization for Student Performance

## Domain: Machine Learning

## Batch No: 146


Dr. Geetha Dayalan
Supervisor

Md. Arfaan Baig
PES2UG20CS190

Vivek K R
PES2UG20CS393

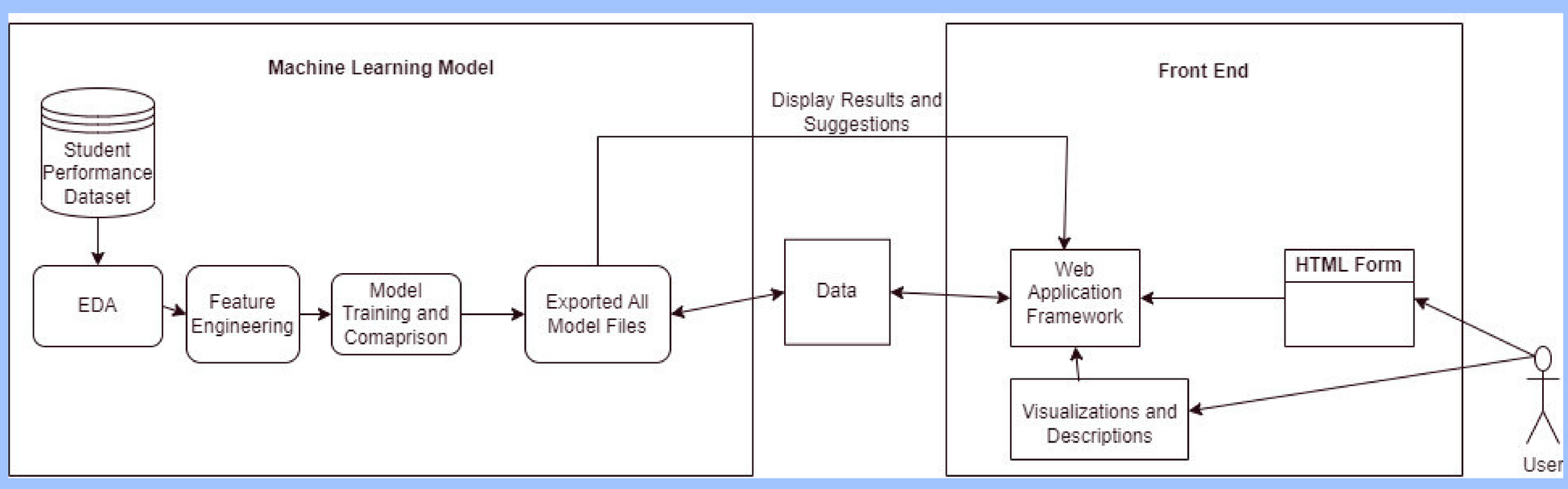
Suryavanshi Shweta
PES2UG20CS471

Anup D Sirsikar
PES2UG20CS494


## Abstract:


The proposed system aims to provide a comprehensive visualization platform for five fundamental machine learning algorithms: K-Nearest Neighbors, Logistic Regression, Decision Tree, Support Vector Machine and Random Forest. These algorithms will be demonstrated in the context of analyzing a student performance dataset, offering an interactive and educational experience for users interested in understanding how these methods work in practice. In addition to the visualization component, the project will utilize the trained algorithms to predict future academic outcomes of students. It will also produce detailed insights into the factors affecting student performance.


## Architectural Flow / Data Flow Diagram:




## Results and Discussion:

- The project yielded promising results.
- Accuracy metrics for the classification models showed strong performance, with Logistic Regression achieving an accuracy of 77%, Decision Tree at 97%, Support Vector Machine (SVM) at 81%, K-Nearest neighbor (KNN) at 81%, and Random Forest at 77%.