CARDIOVASCULAR DISEASE PREDICTION

INTRODUCTION

We will use the Cleveland Heart Disease dataset from the UCI Machine Learning Repository. This dataset contains medical information about patients, including their age, sex, cholesterol level, resting blood pressure, maximum heart rate achieved, and whether or not they have heart disease.

PROBLEM STATEMENT

How to build a ML model to identify cardiovascular patient based on their medical history

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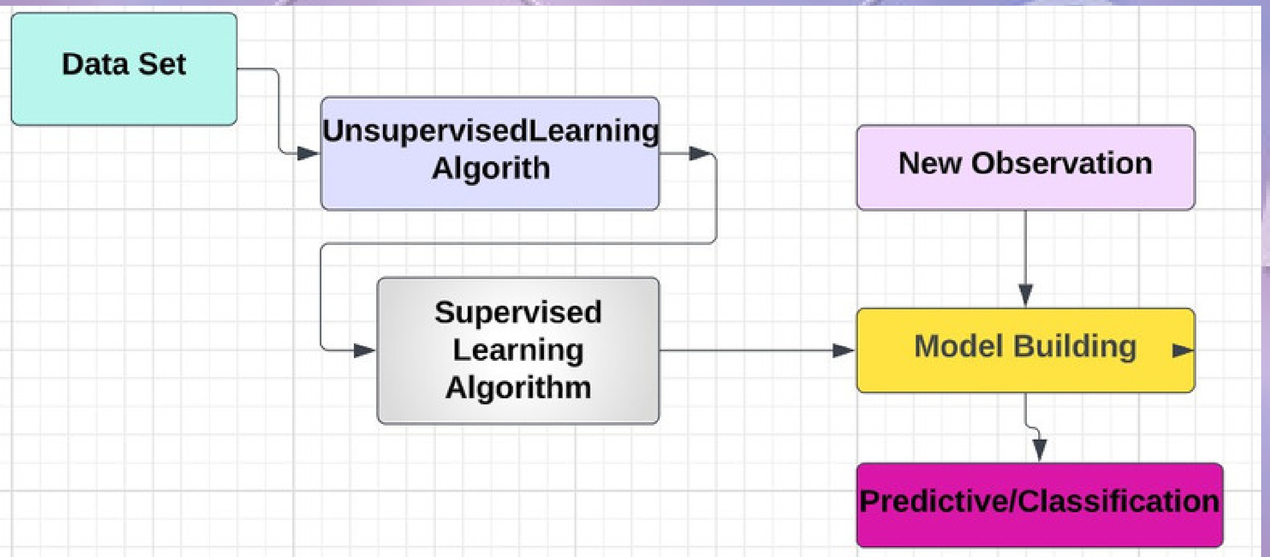
MODEL ARCHITECTURE

Hypothesis 1:
Clustering similar patients together based on their medical history
Hypothesis 2:
Age, sex, cholesterol level, sex,chest pain,blood pressure,blood sugar level,ecg, exercise induced angina,oldpeak,slope,ca,thal
resting blood pressure, maximum heart rate achieved, and whether or not they have heart disease.

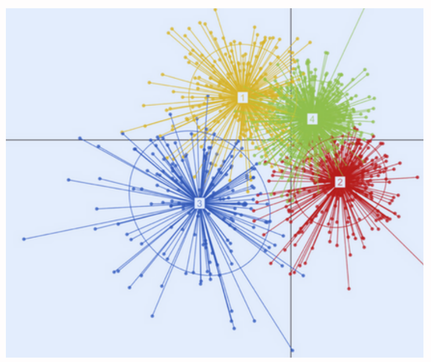


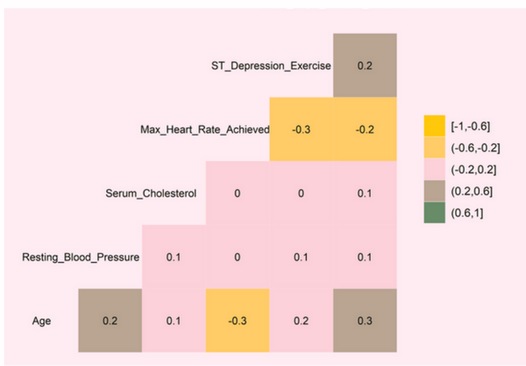
LITERATURE REVIEW

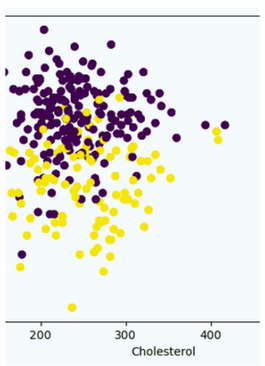
The heart disease dataset is a widely studied dataset that contains information about patients with heart disease. The dataset has been used in many studies to develop predictive models that can help diagnose and treat heart disease.

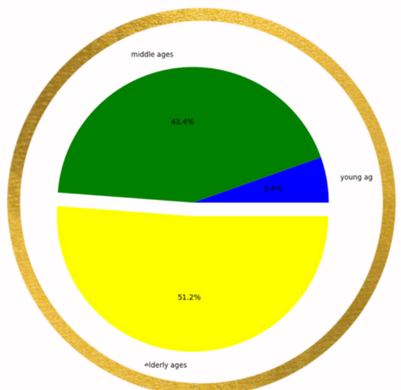
One study conducted by K. Sathya et al. (2020) aimed to develop a predictive model for heart disease using machine learning techniques. The researchers used the heart disease dataset to train and test their model, which achieved an accuracy of 90.37%.

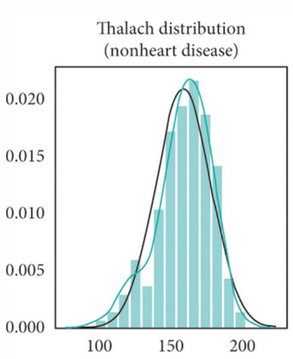
Analysis::
We will start with unsupervised clustering to group similar patients together based on their medical history.
Then, we will use this clustering information to assign labels to each patient and convert the data into a supervised format.

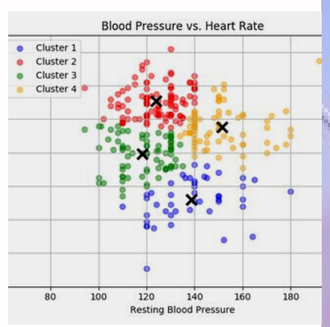






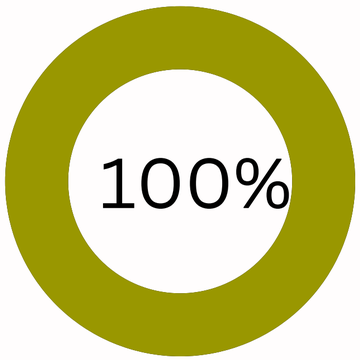






RESULTS

The model is showing 100% accuracy for all the 3 algorithms . Random forest as our suitable model after verifying all the required parameters with high accuracy.



REFERENCES

Sharma, S., & Parmar, M. (2020). Heart disease prediction using the unsupervised model. International Journal of Innovative Technology and Exploring Engineering (IJITEE), 9(3), 2244-2248.