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UC Diego's Machine Learning Engineering Bootcamp

Heart Failure Prediction

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Overview

According to the World Health Organization, cardiovascular diseases (CVDs) are the leading cause of death globally. Around 17.9 million lives are lost each year due to CVDs. Four out of five deaths from CVD are the result of heart attacks or strokes. For my capstone project, I will be utilizing machine learning to predict if a user will have a heart failure or not.

The project's premise is to determine if a patient will have heart failure based on 11 features of the patient. These features include age, sex, chest pain type, resting blood pressure, cholesterol, fasting blood sugar, resting electrocardiogram, max heart rate, exercise-induced angina, old peak, and the peak exercise ST-segment slop. I will be working with a dataset that contains 918 observations provided sourced from Kaggle.

https://www.kaggle.com/datasets/fedesoriano/heart-failure-prediction

Since this is a binary classification problem, I will be using a logistic regression model to make the prediction. The following are the goals of this capstone project

Goals

1. **Exploratory Data Analysis**
2. **Data Processing & Data Cleanup**
3. **Baseline Modeling**
4. **Baseline Modeling with a Neural Network**
5. **Hyperparameter Tuning**

6. **Create Web Application**

7. **Deploy Application to AWS**