CSC 761: Advanced Artificial Intelligence

Project: Heart Attack Patterns Analysis and Prediction

Abstract:

This research explores the use of machine learning techniques for the analysis and prediction of heart attacks. Creating a strong prediction model is the aim, using a dataset that includes important health factors including age, sex, kind of chest discomfort, blood pressure, and cholesterol levels.

Steps include addressing missing values, understanding distinctive features, and visualizing category and numeric variables. The process starts with data exploration and preprocessing. While outlier identification and correlation analysis reveal anomalies and relationships within the data, standardization provides consistency across features.

During the predictive modeling stage, logistic regression is used as a baseline model, and it is then optimized using hyperparameters. Assessment measures like ROC curves and accuracy ratings are used to determine how well the model predicts heart attacks.

In the end, this project provides insights into heart attack risk factors and preventive actions, showing the potential of machine learning in healthcare decision-making.

Dataset:

We are planning to use heart attack datasets from Kaggle.

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