HeartGuard: A Model to Detect Heart Disease Using Machine Learning

Lee, Carson (School: Bartlesville High School)
Lee, Caylen (School: Bartlesville High School)

Heart disease is a broad term that encompasses various heart conditions. It is also the leading cause of death both in the United States and globally. This disease claims millions of lives each year, and the number continues to rise. Additionally, it costs the world billions of dollars annually due to factors such as hospital visits and medication. With this in mind, we set out to create an application aimed at reducing these numbers and making it easier for people to assess their risk of heart disease. We began by downloading a dataset from Kaggle containing 606 records, each with thirteen input features and one target variable. We then built a model using the K-Nearest Neighbors algorithm to predict whether a user has heart disease based on the thirteen inputs. Finally, we developed an application that can be hosted locally. This application prompts users for the relevant inputs and provides a prediction based on the model's analysis. Through this tool, we hope to raise awareness of the growing impact of heart disease and its associated costs.

Awards Won: