



Module 3 – Heart Disease

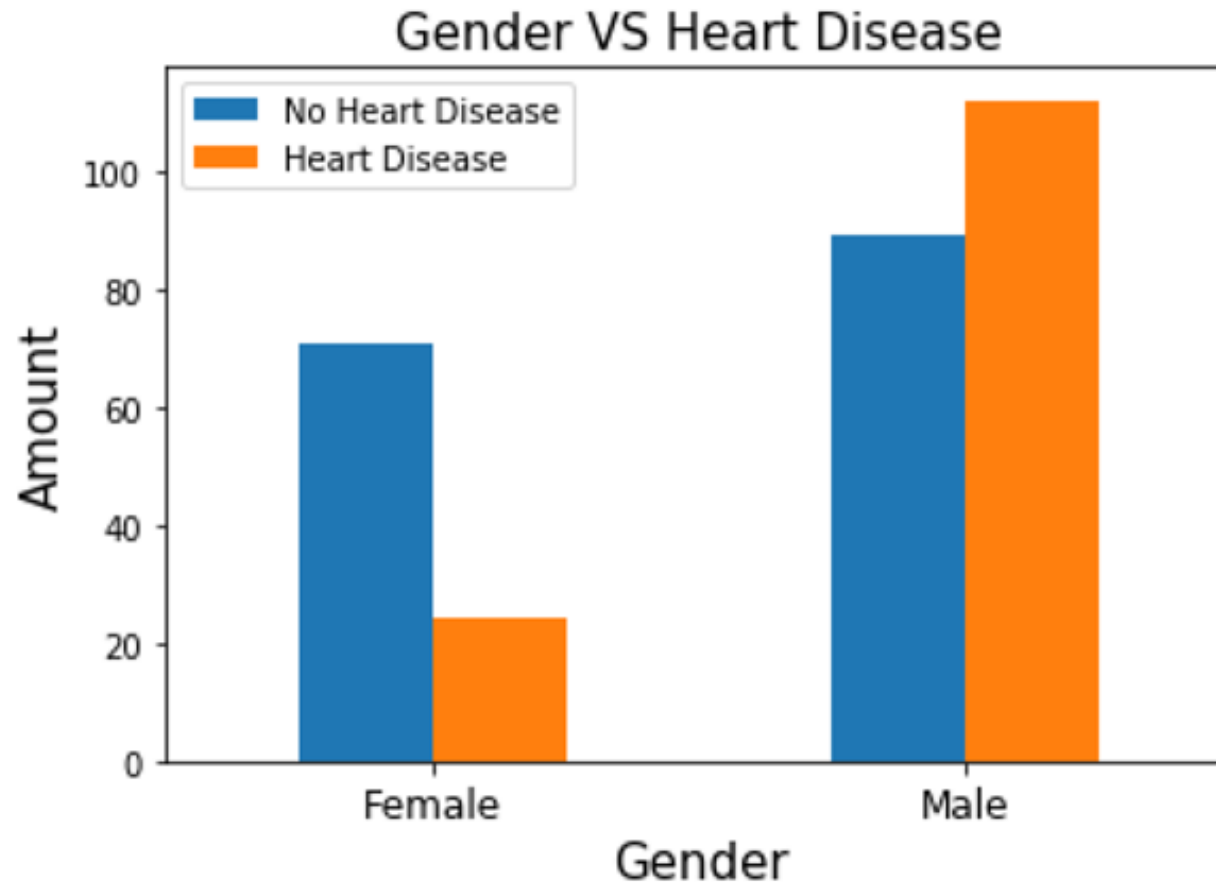
Andy Peng



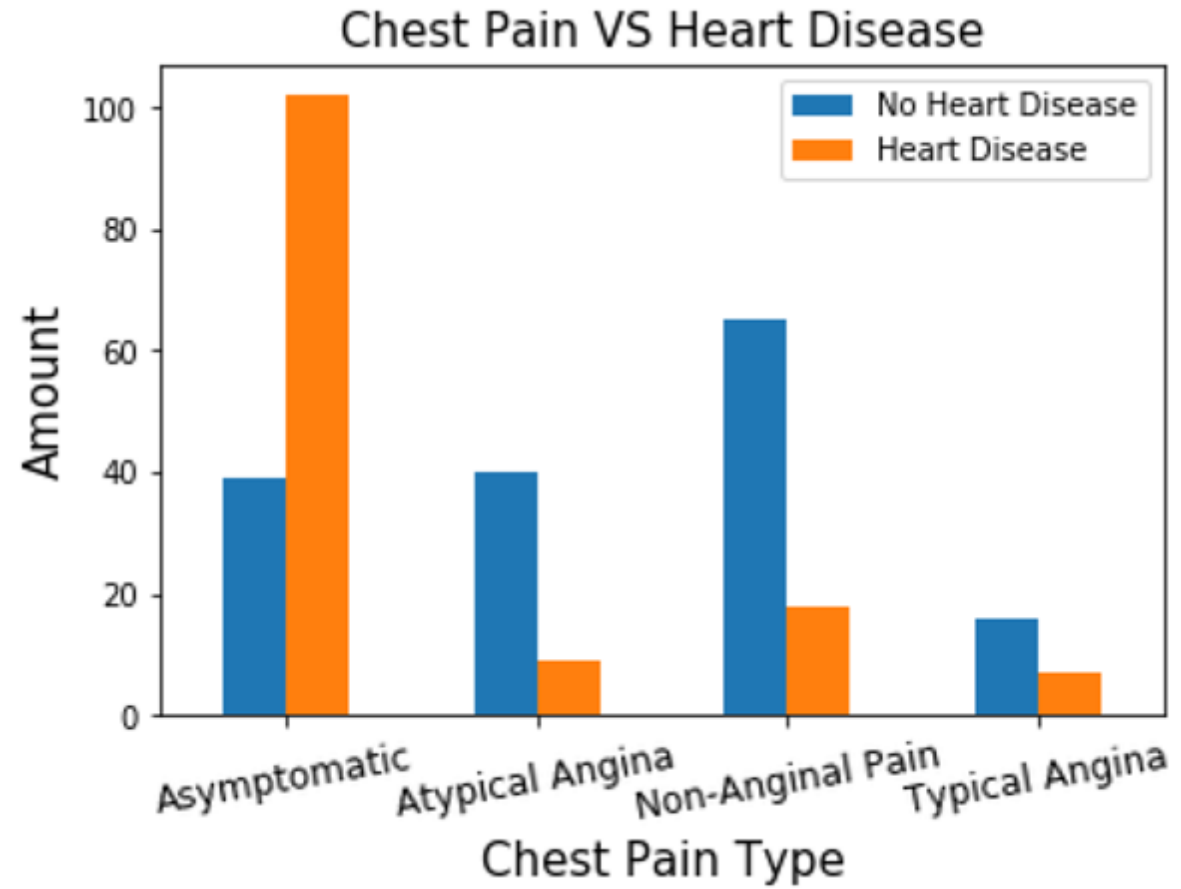
Overview

- ❑ Relationship to heart disease
 - ❑ Gender
 - ❑ Thallium Stress Result
 - ❑ Age
- ❑ Modeling

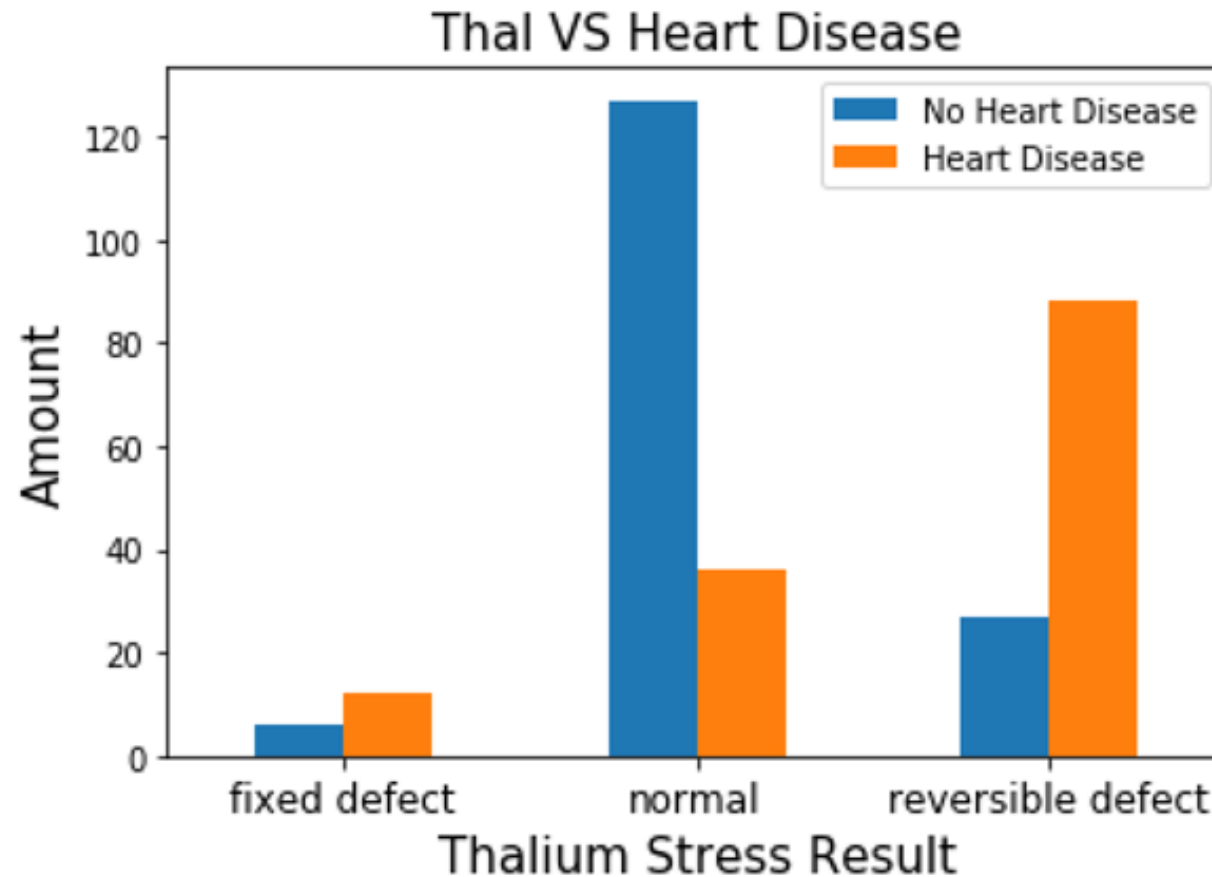
Does Gender affect Heart Diseases?



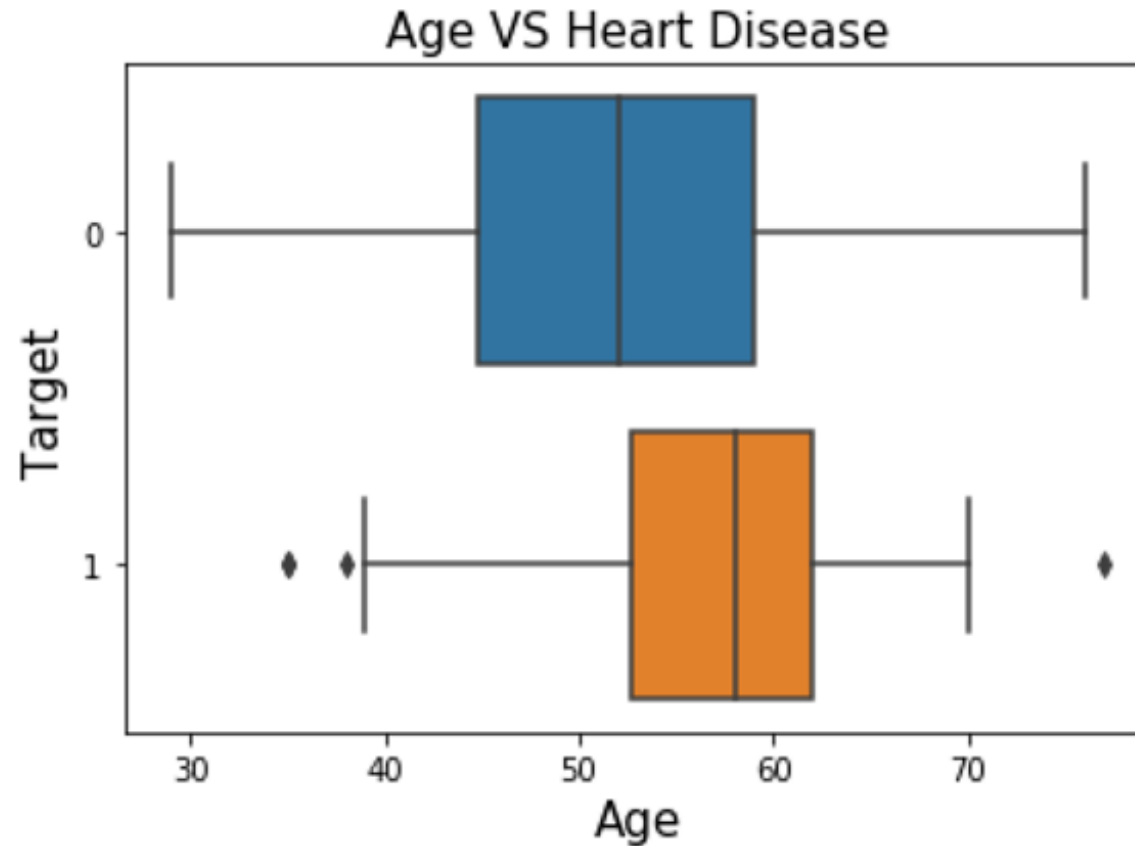
Chest Pain



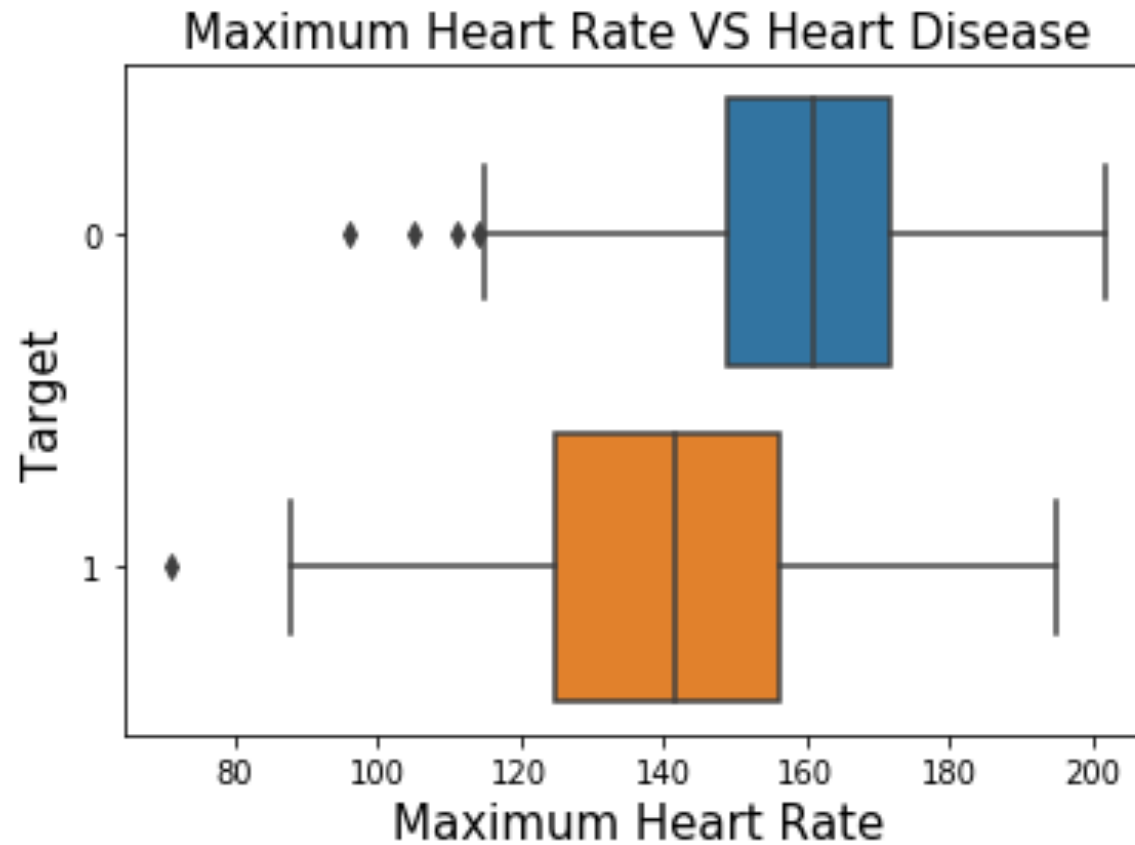
Thallium Stress Results



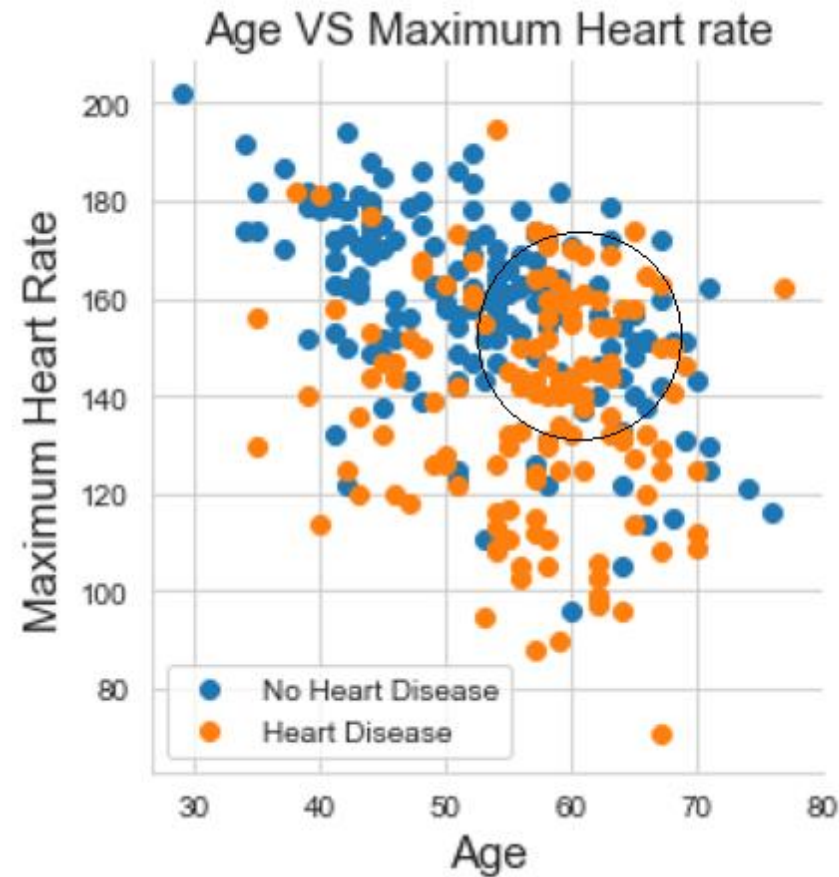
Does age affect Heart Diseases?



Maximum Heart Rate



Maximum Heart Rate



Modeling

- ❑ Logistic Regression
- ❑ K Nearest Neighbors
- ❑ Decision Tree
- ❑ Random Forest
- ❑ XGBoost
- ❑ GridSearchCV

Results

- ❑ AUC – Random Forest with GridSearchCV
- ❑ Accuracy/Precision/F1 Score – XGBoost with GridSearchCV
- ❑ Recall - XGBoost

Recommendations

❓ XGBoost for Recall Score

	precision	recall	f1-score	support
0	0.87	0.87	0.87	31
1	0.86	0.86	0.86	29
accuracy			0.87	60
macro avg	0.87	0.87	0.87	60
weighted avg	0.87	0.87	0.87	60

Recommendations

- ❑ Gender
- ❑ Asymptomatic Chest Pain
- ❑ Reversible Defect
- ❑ Age & Maximum Heart Rate

Next Steps

❑ Features to Explore

- ❑ Genetic Disorders
- ❑ Body Weight Percentages
- ❑ Patient's Diet

❑ Gather More Data



Thank You