DiagnoSci

Early detection of Heart Disease
using existing lab results of patients

Participants:

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Who are we?

DiagnoSci is a Data Consulting agency providing advanced medical insights to patients, by utilizing diagnostic exams.

We turn Data into Life Saving Knowledge!

What is our job?

- Apply Machine Learning models on existing medical records of patients, to predict risk for heart disease.

- Notify patients that exhibit signs of oncoming heart disease, in order for them to contact their doctor and follow preventive measures.

The Data

- 700+ Exam Results of patients
- 12 different markers
  - Blood Pressure, Blood Sugar, Cholesterol Levels, Age, Sex etc.
- 55% of patients with existing Heart Disease

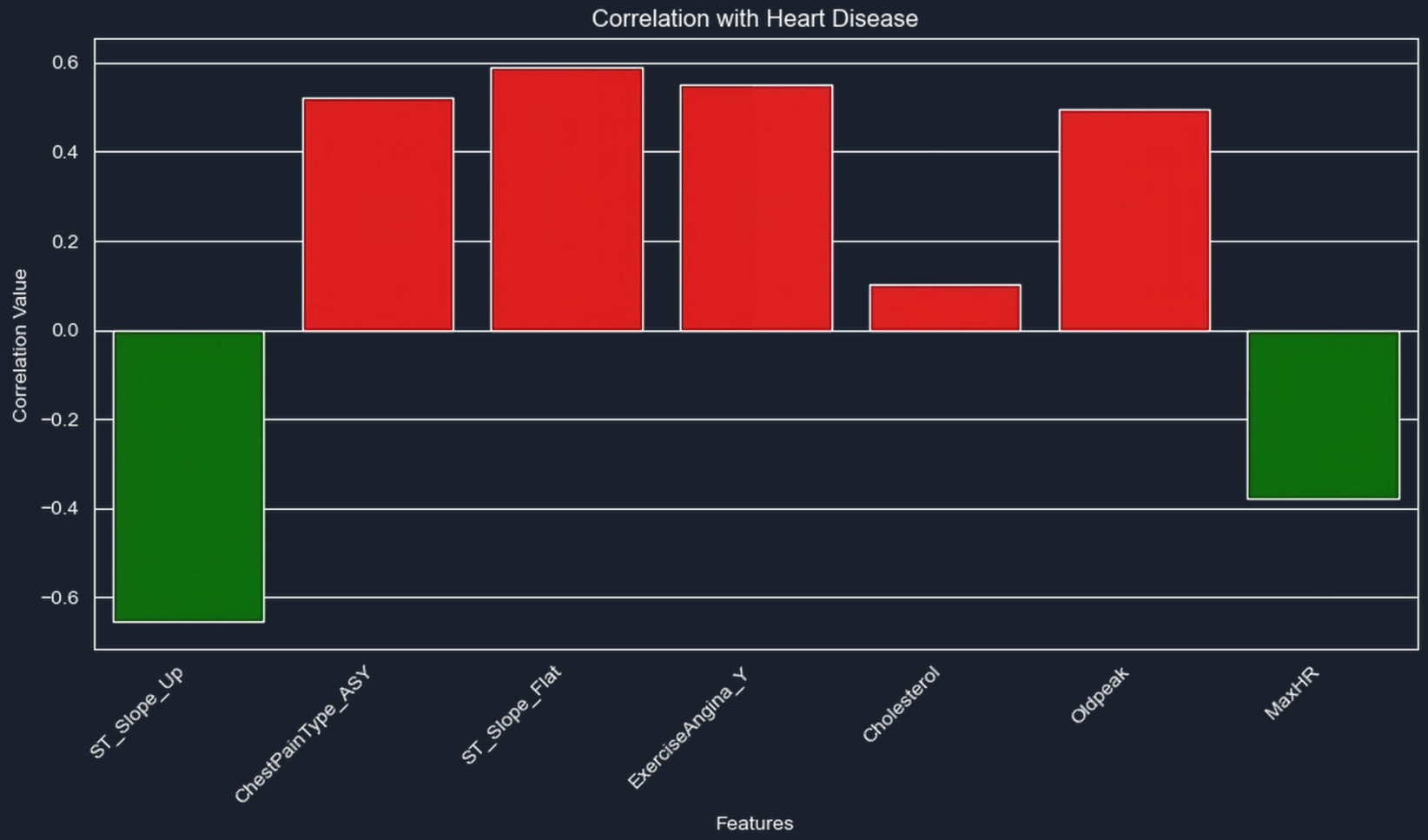
Top Factors

NEGATIVE

1. **Flat peak exercise ST segment**
2. **Asymptomatic chest pain**
3. **Exercise Angina**
4. **High Cholesterol**
5. **High Oldpeak** (downward deviation of ST compared between exercise and rest)

POSITIVE

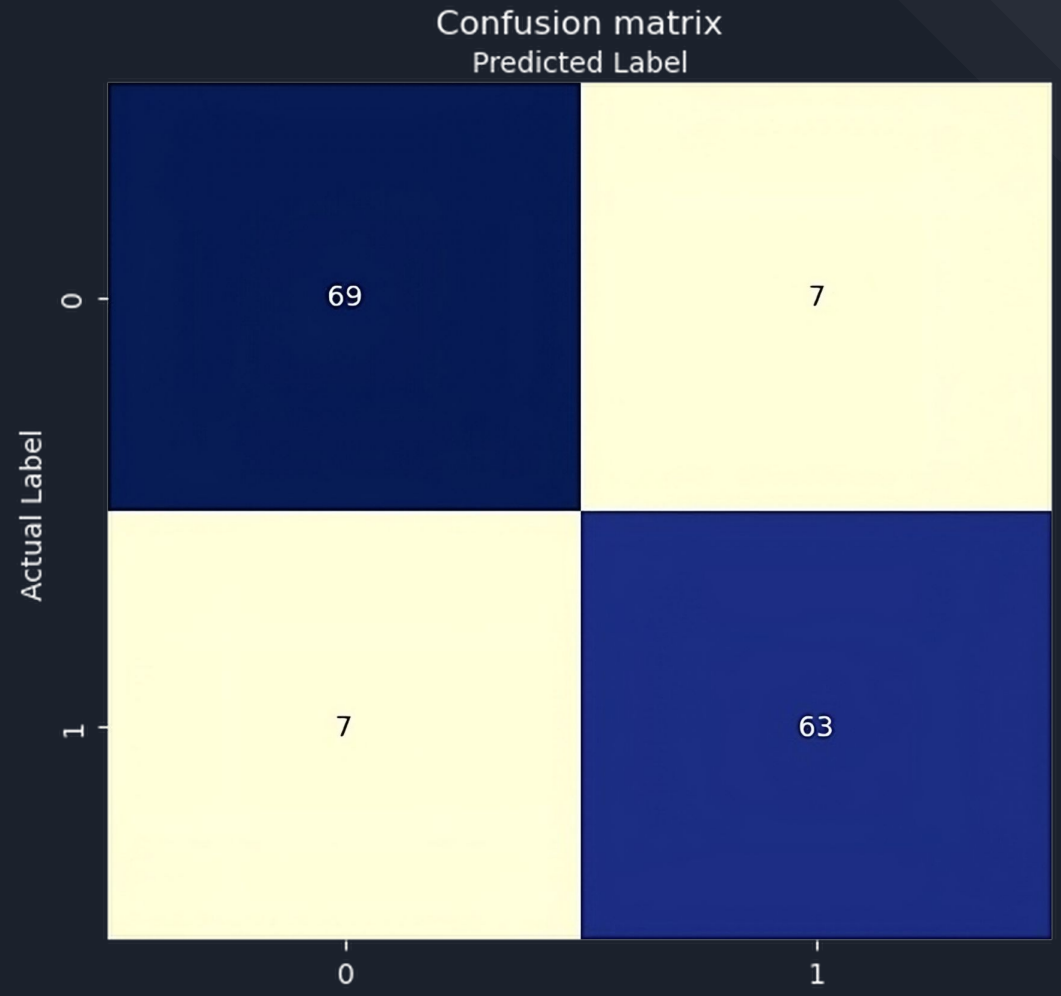
1. **Upsloping peak exercise ST segment**
2. **High Max Heart Rate**


Correlation with Heart Disease
Correlation Value
0.6
0.4
0.2
0.0
−0.2
−0.4
−0.6
ST_Slope_Up
ChestPainType_ASY
ST_Slope_Flat
ExerciseAngina_Y
Cholesterol
Oldpeak
MaxHR
Features

Prediction Model

- 80% of the exam results used in training our model
  - RandomForest
- Our focus is to correctly identify most of the people **with** Heart Disease.
  - High Emphasis on Recall Score
- The rest 20% is used to measure the accuracy of our predictions

Prediction Results



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—> 70

Summary | Outlook

- 91% of the patients WITH Heart Disease were correctly identified
- 9% of the patients WITHOUT Heart Disease were misdiagnosed
- Further model refinement can be achieved with more exam results
- Examine how additional markers affect the predictions

We value your Part in Today's

Health Innovation Conversation