Model to help doctors to determine whether change in medication will help or deter patient health

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INTRODUCTION

Audience: Doctors with diabetic patients.

Goal: To use a predictive model that will recommend if a patient will mediate their diabetes with more or less medication

METHODS

Collected Data

UCI Machine Learning Repository

Logistic Regression

Used Logistic Regression as a Classifier.

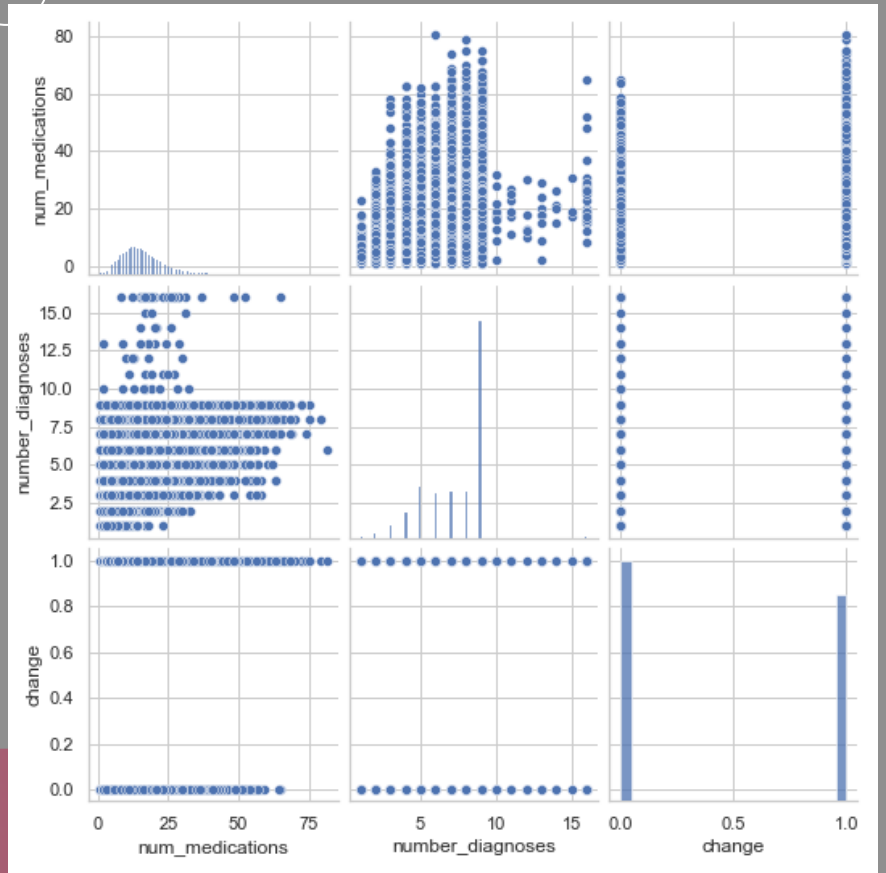
Random Forest

Used Random Forest to help refine model

F1 Score

Used F1 to see the accuracy of the model

Results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75
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10
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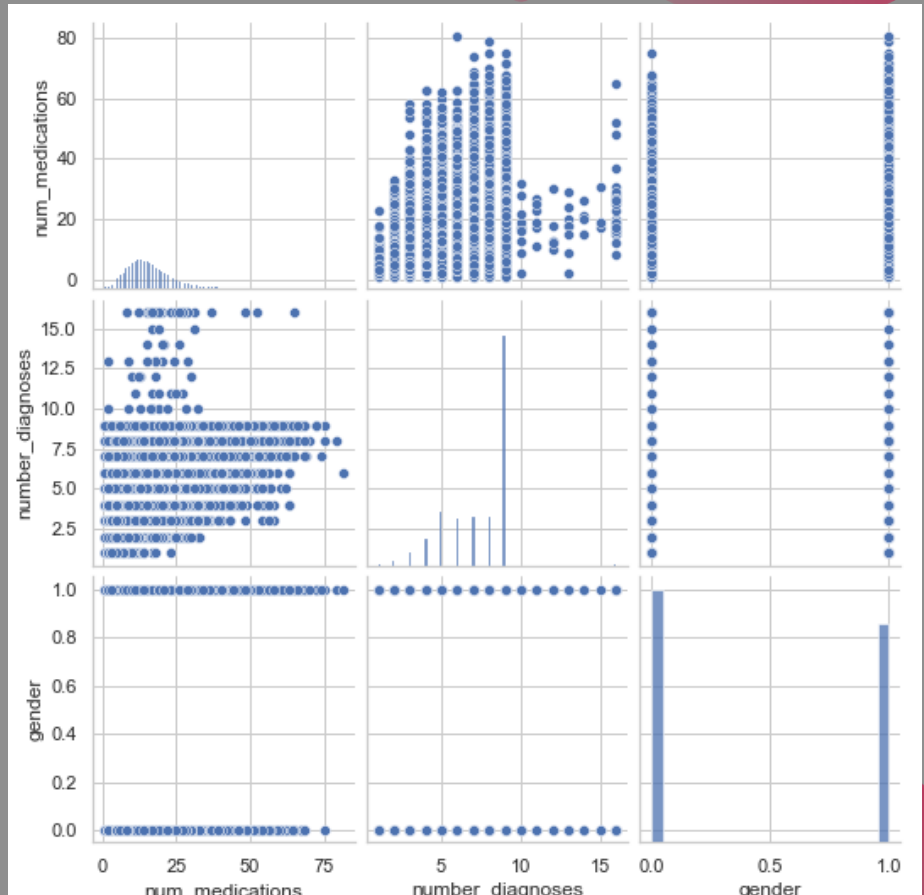
0.8
2.5
5.0
7.5
10.0
12.5
15.0
20
40
60
80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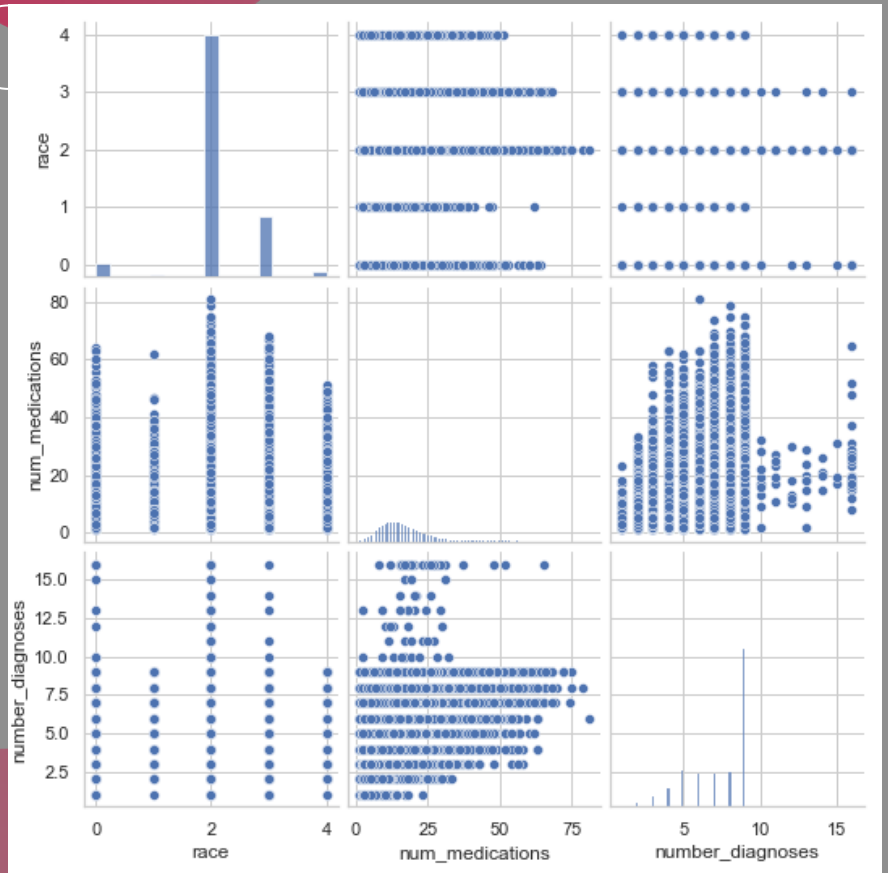
15.0
20
40
60
80

Results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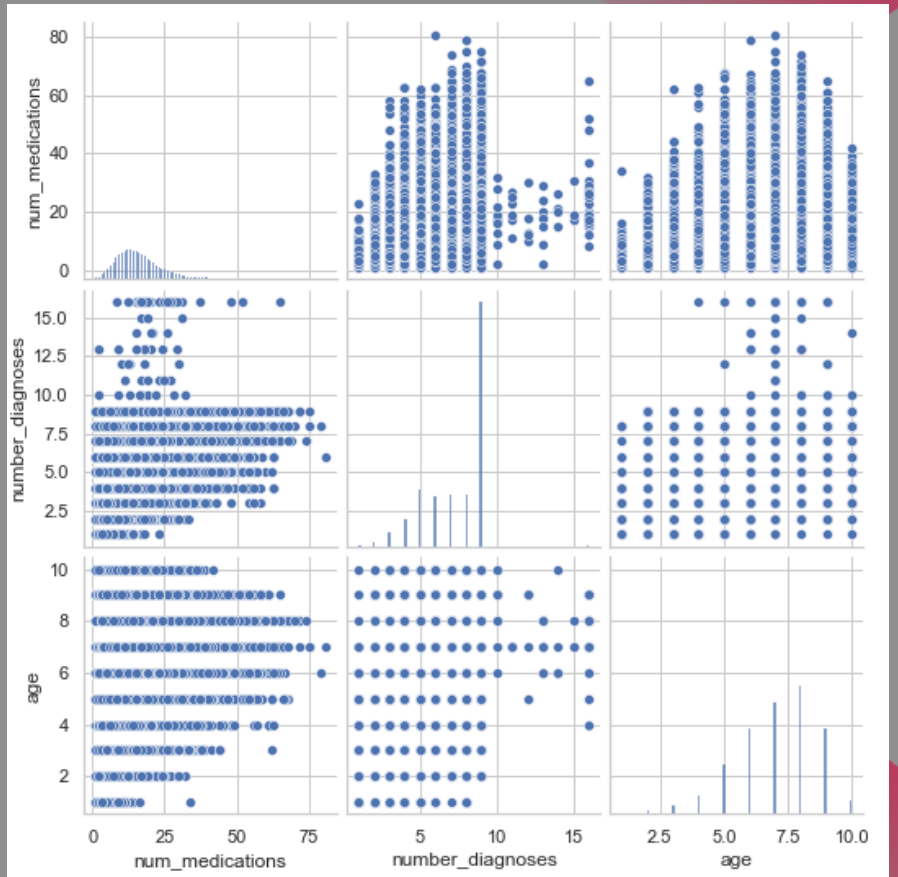
number_diagnoses
race
num_medications
number_diagnoses


num_medications
number_diagnoses
age
num_medications
number_diagnoses
age

CONCLUSIONS

Best Features

With a score of .54 through random forest, gender was the best feature following age.

Random Forest and Logistic Regression

Random Forest and Logistic Regression resulted with scores with useable accuracies.

Recommendations

- Doctors deciding to increasing, decreasing, or changing their patients medications should also check the features of age, gender, and race.
- The best features according to the model that will help with the decision will be gender.

Future Work

- Gather other data sets to refine model.
- Trying other classification models and metrics.
- Refining the current models .