UCI

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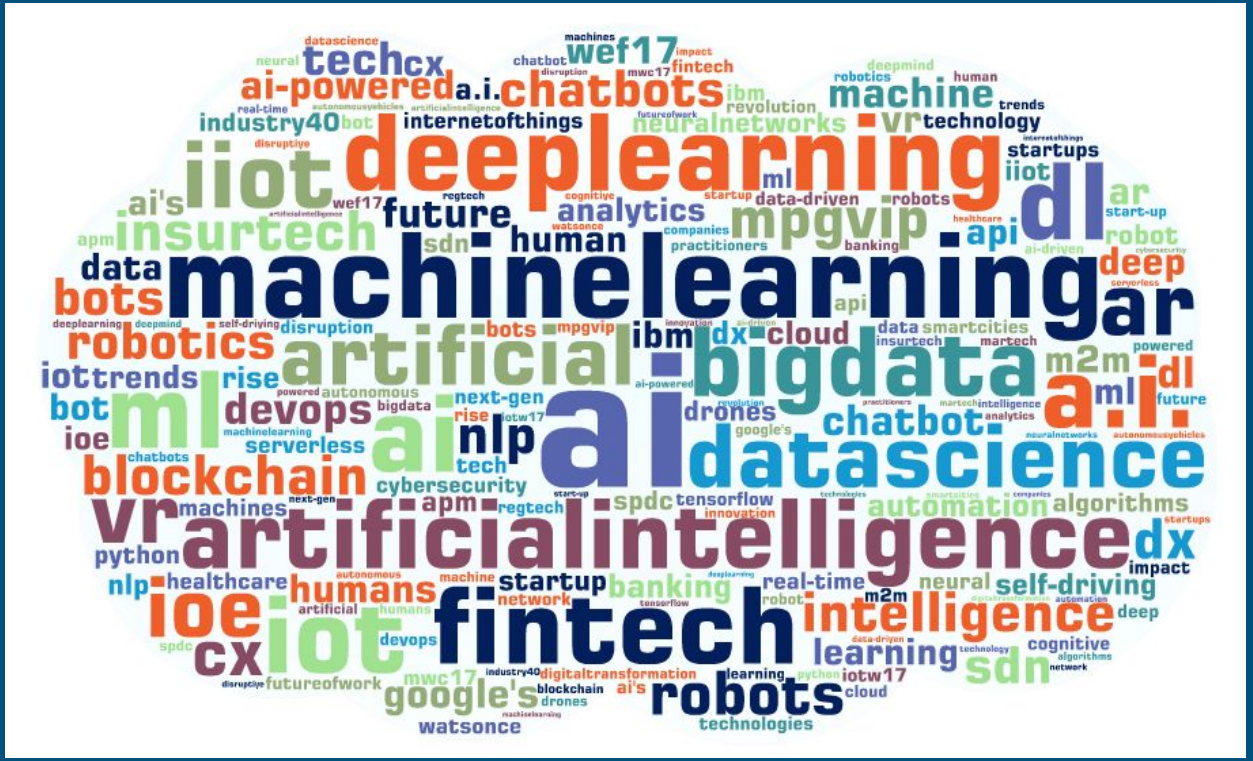
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learning
sdn
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technologies

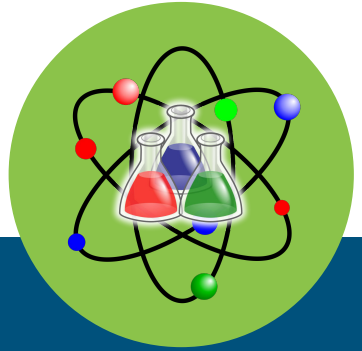
Problem

Predict if a person's income is in excess of $50,000 given certain profile information. More specifically, we need to generate predicted probabilities of income being above $50,000. Our team is constrained by the maximum number of features.

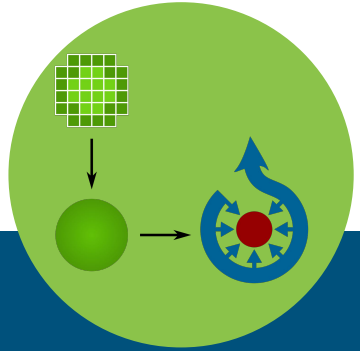
Team Features Constraint:

- Your choice of algorithm
- Limited to a maximum of 20 features
- Your choice of samples

Steps



EDA/Cleaning



Data Conversion
& Encoded

Feature Engineer
& Models

Our Best Features

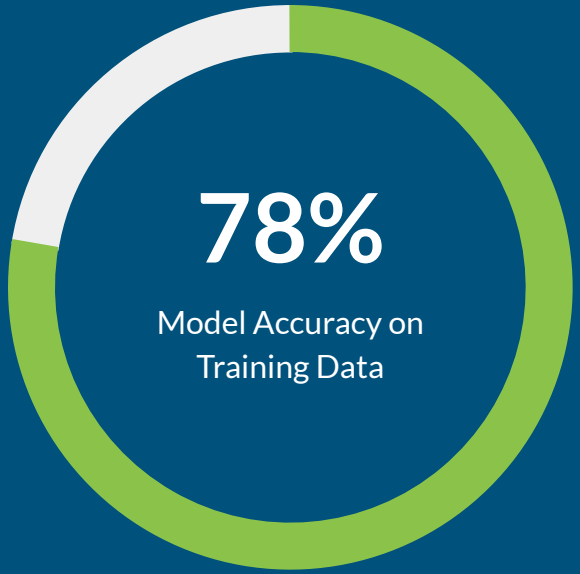
Strongest Positive Correlation

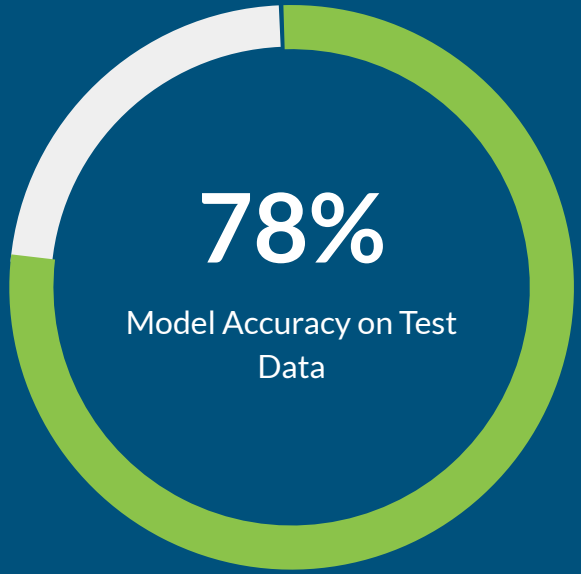
- 'Age'
- 'Hours per Week'
- ‘Education Number’
- 'Marital Status Married Civ Spouse'
-

Strongest Negative Correlation

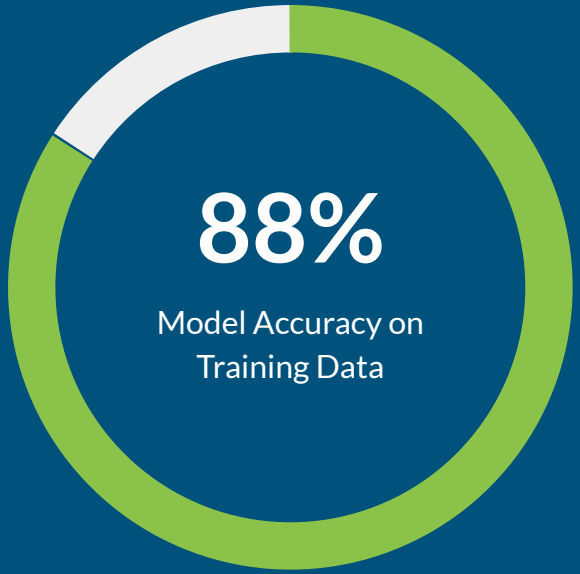
- 'Marital Status Never Married'
- 'Relationship Own Child'
- ‘Relationship Not In Family'
- ‘Occupation Other Service'
- ‘Relationship Unmarried'

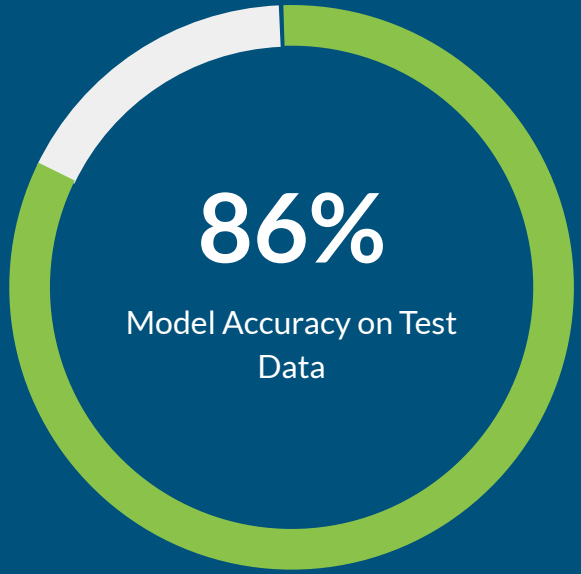
Supporting **Information: Naive Bayes**

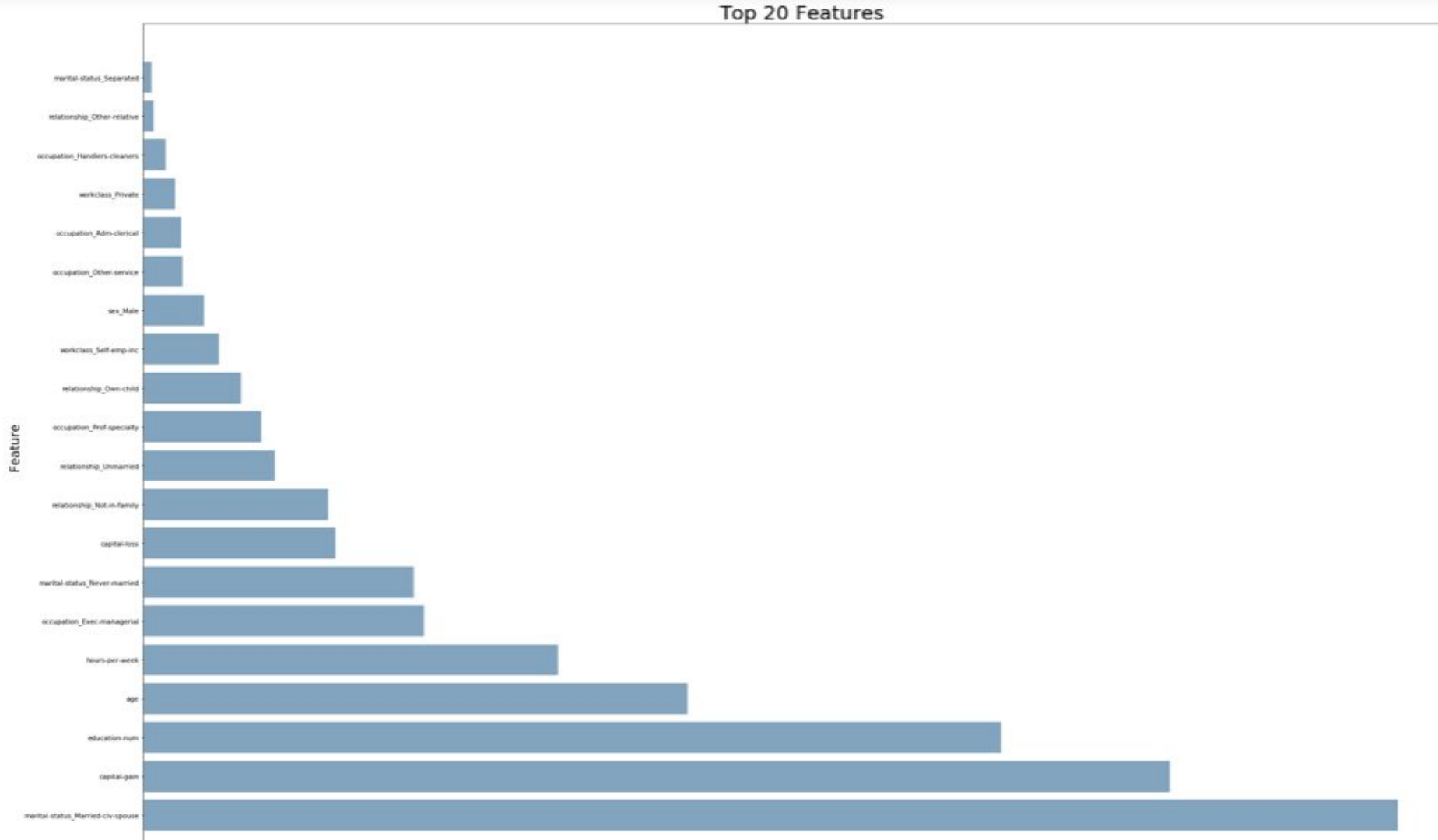


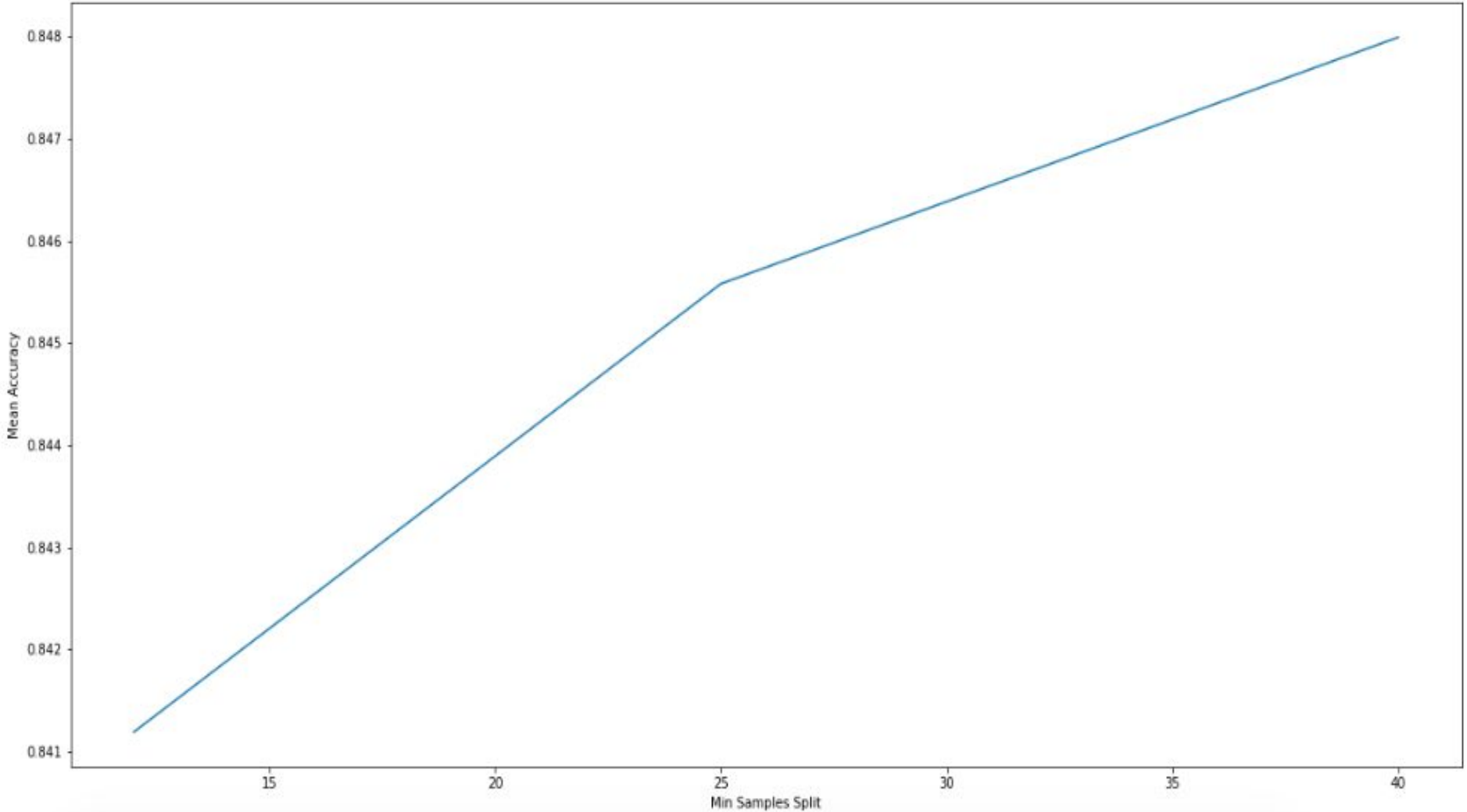


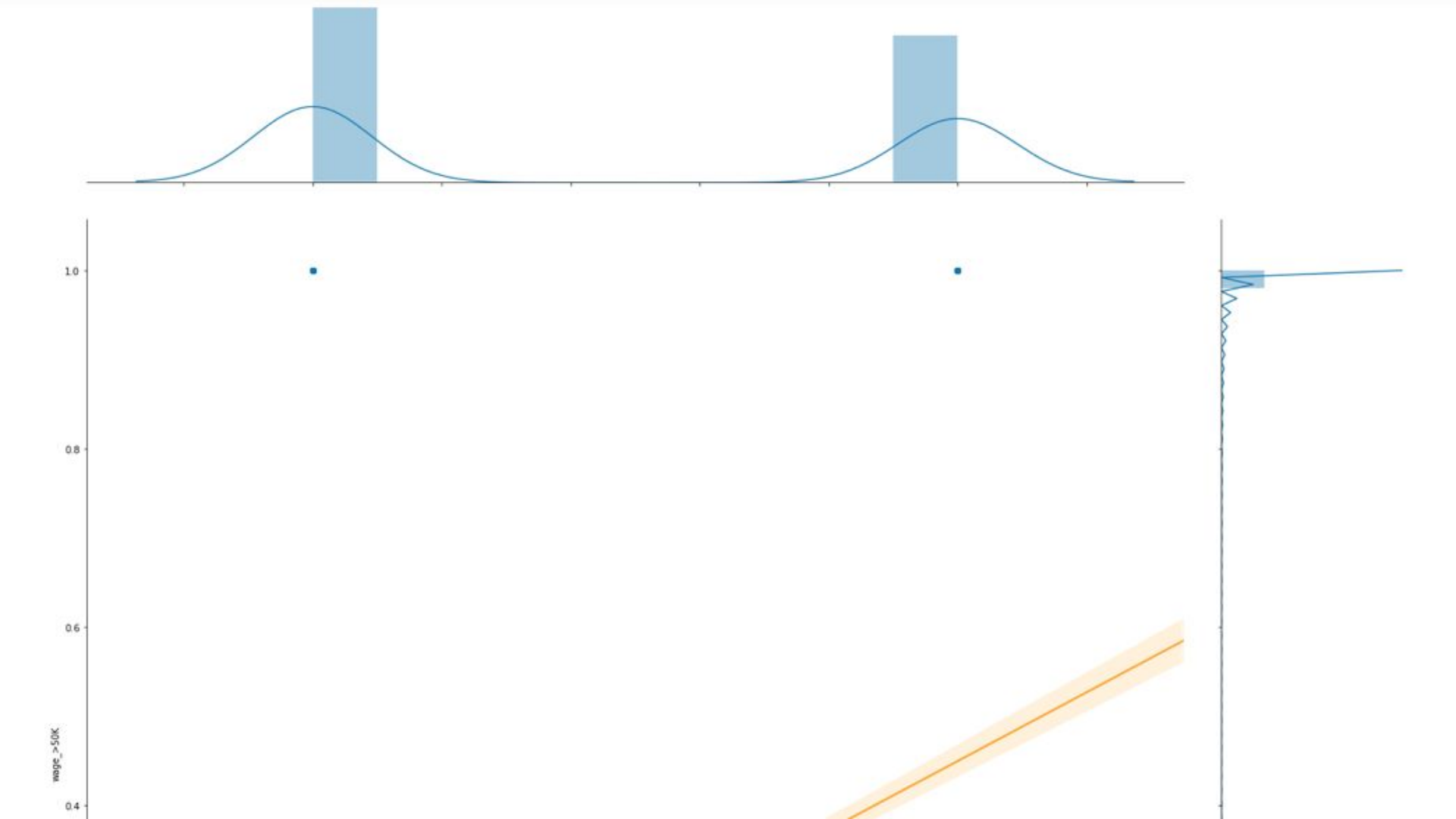
Supporting **Information: Random Forest**






Top 20 Features
Feature
marital-status_Separated
relationship_Other-relative
occupation_Handlers-cleaners
workclass_Private
occupation_Adm-clerical
occupation_Other-service
sex_Male
workclass_Self-emp-inc
relationship_Own-child
occupation_Prof-specialty
relationship_Unmarried
relationship_Not-in-family
capital-loss
marital-status_Never-married
occupation_Exec-managerial
hours-per-week
age
education-num
capital-gain
marital-status_Married-civ-spouse


0.848
0.847
0.846
0.845
0.844
0.843
0.842
0.841
Mean Accuracy
15
20
25
30
35
40
Min Samples Split


1.0
0.8
0.6
0.4
wage_>50K

Questions