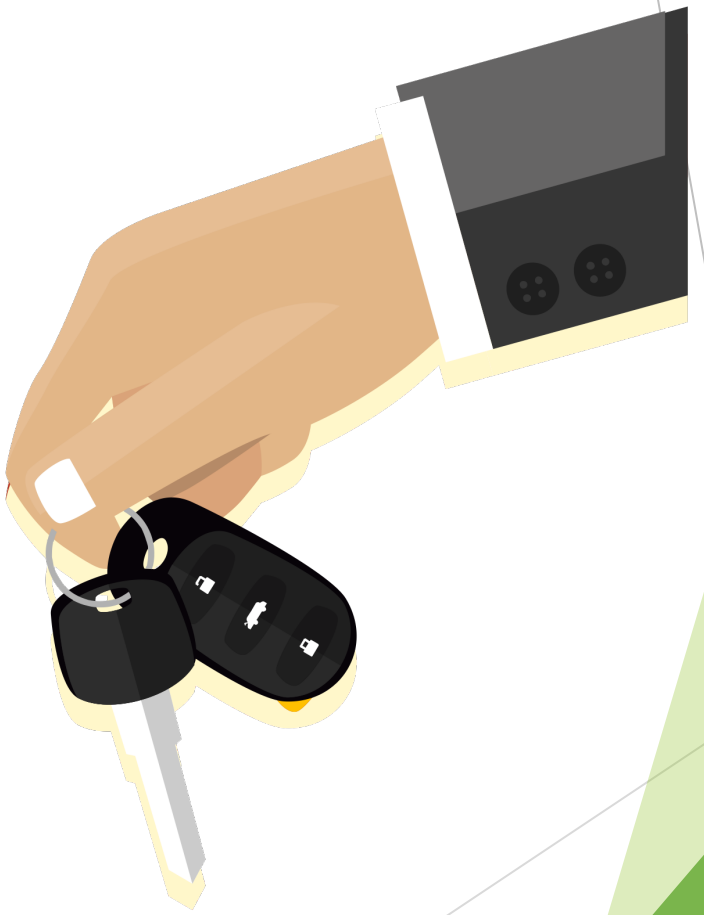
أكاديمية سدايا
SDAIA Academy

Car insurance Claim Classification



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Introduction

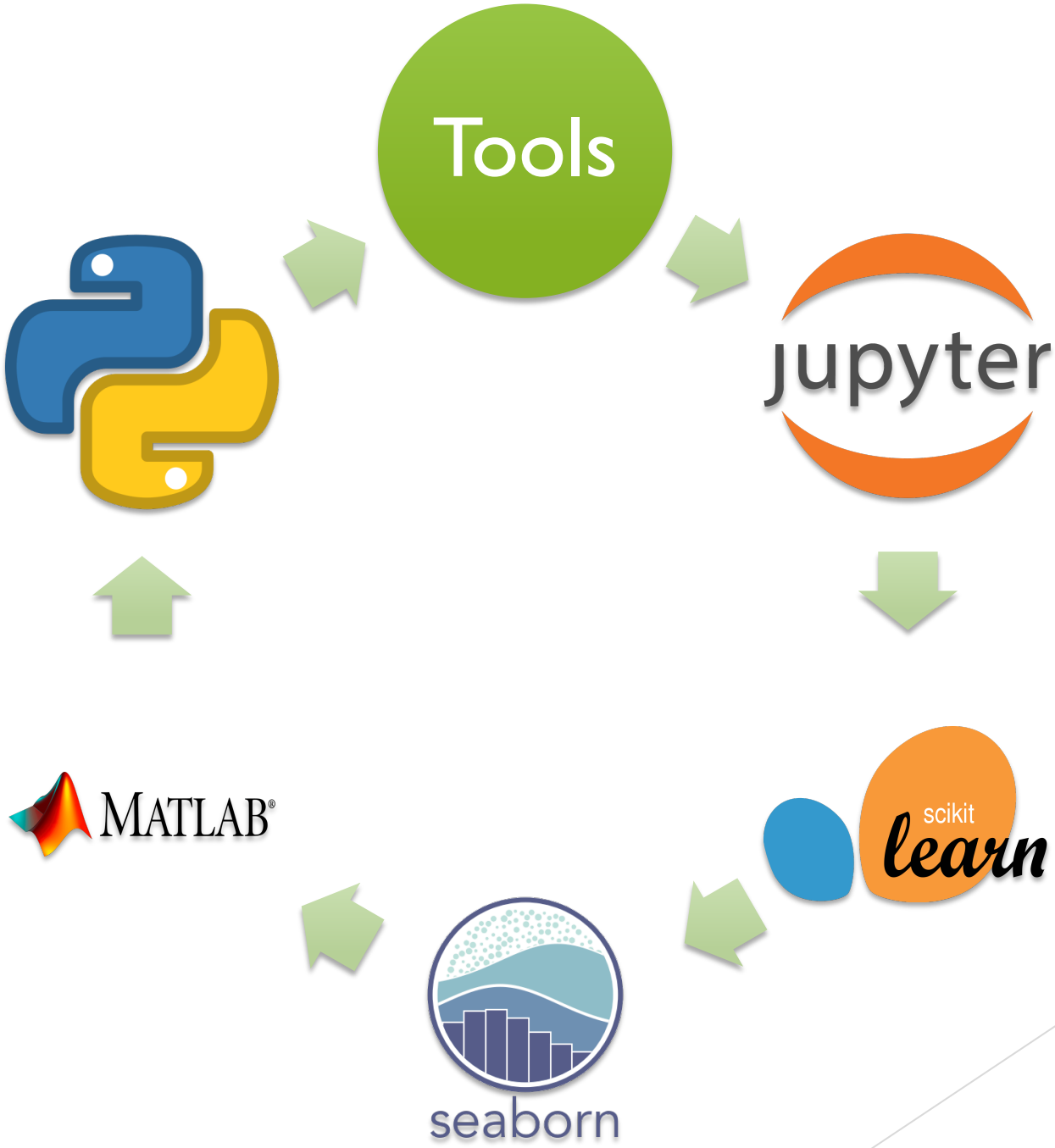
- Car insurance use is to provide financial protection against physical damage or bodily injury resulting from traffic collisions.
- Car insurance may additionally offer financial Protection against theft of the vehicle


Downloaded from kaggle
10K observations
- Filling null values with mean
- Renaming columns
- Select high 5 score features
(more impact on data)
- Drop unnecessary columns
Dataset
Exploratory Data Analysis
Date Cleaning
Feature Engineering
Apply 9 Models on the Dataset
Chose the Best model

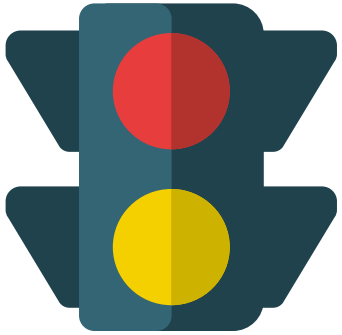
About Data

- **Features** (Customer data):
  - Age
  - Driving Experience
  - Speed Violations
  - Driving under the influence
  - Past Accidents

- **Target**:
  - Did the customer has claimed his/her loan or not.


Tools
jupyter
scikit
learn
seaborn
MATLAB

Modelling

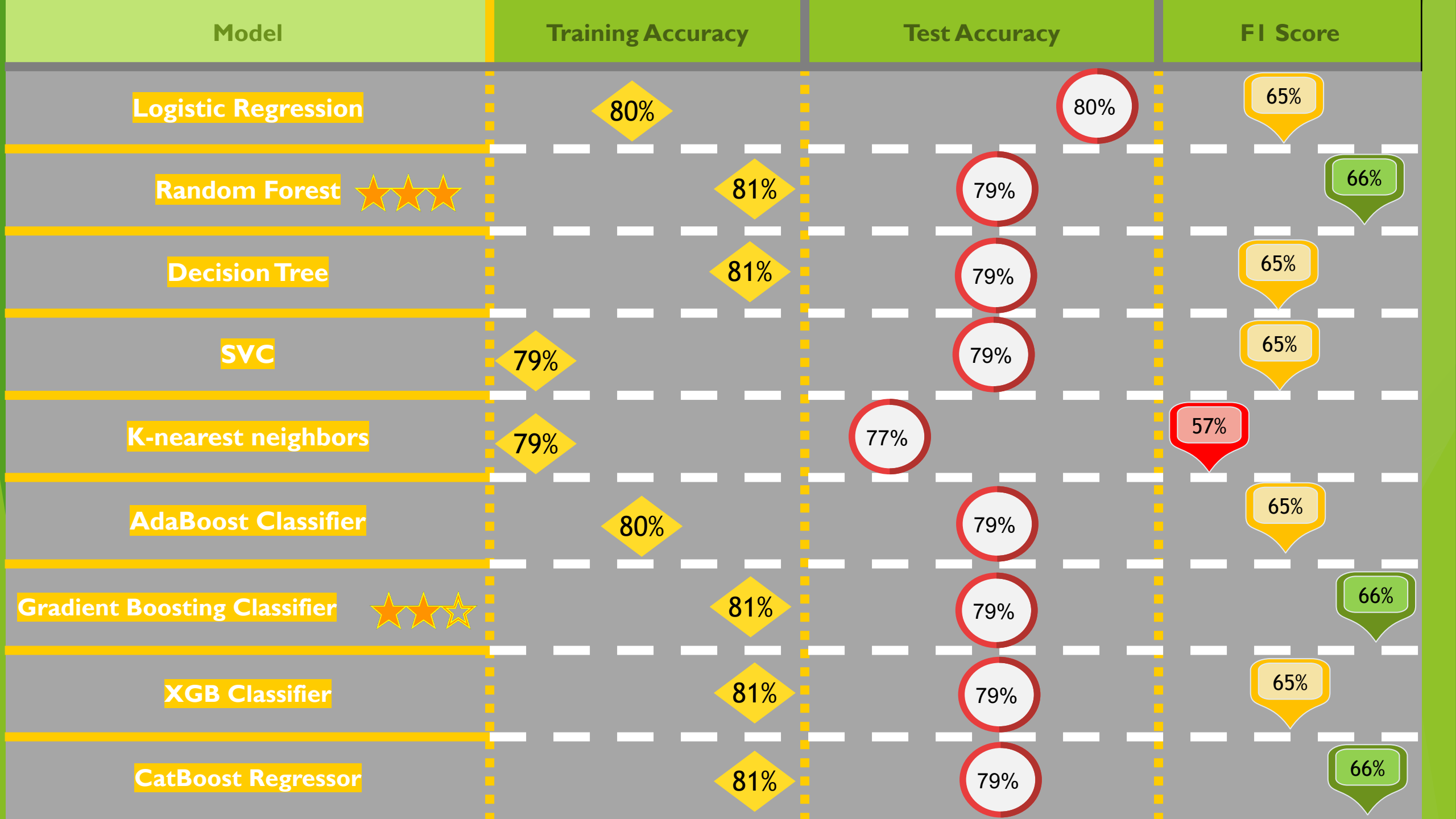


Training set 60%

Validation set 20%

Test set 20%

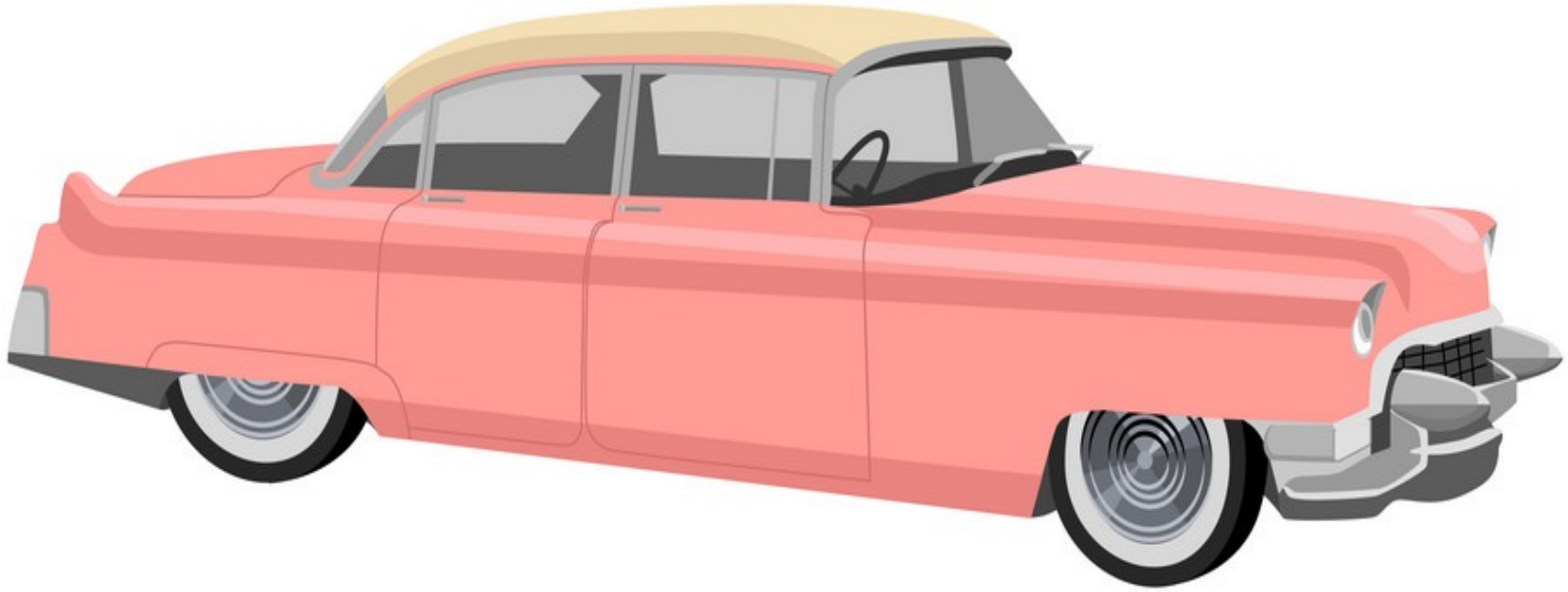
Classification evaluation metric: F1 Score


Model
Training Accuracy
Test Accuracy
F1 Score
Logistic Regression
80%
80%
65%
Random Forest
81%
79%
66%
Decision Tree
81%
79%
65%
SVC
79%
79%
65%
K-nearest neighbors
79%
77%
57%
AdaBoost Classifier
80%
79%
65%
Gradient Boosting Classifier
81%
79%
66%
XGB Classifier
81%
79%
65%
CatBoost Regressor
81%
79%
66%

conclusion

- The model works good performance to classify that if a customer has claimed his/her loan or not.
- Future work:

Explore more features such as gender and credit score.

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