

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



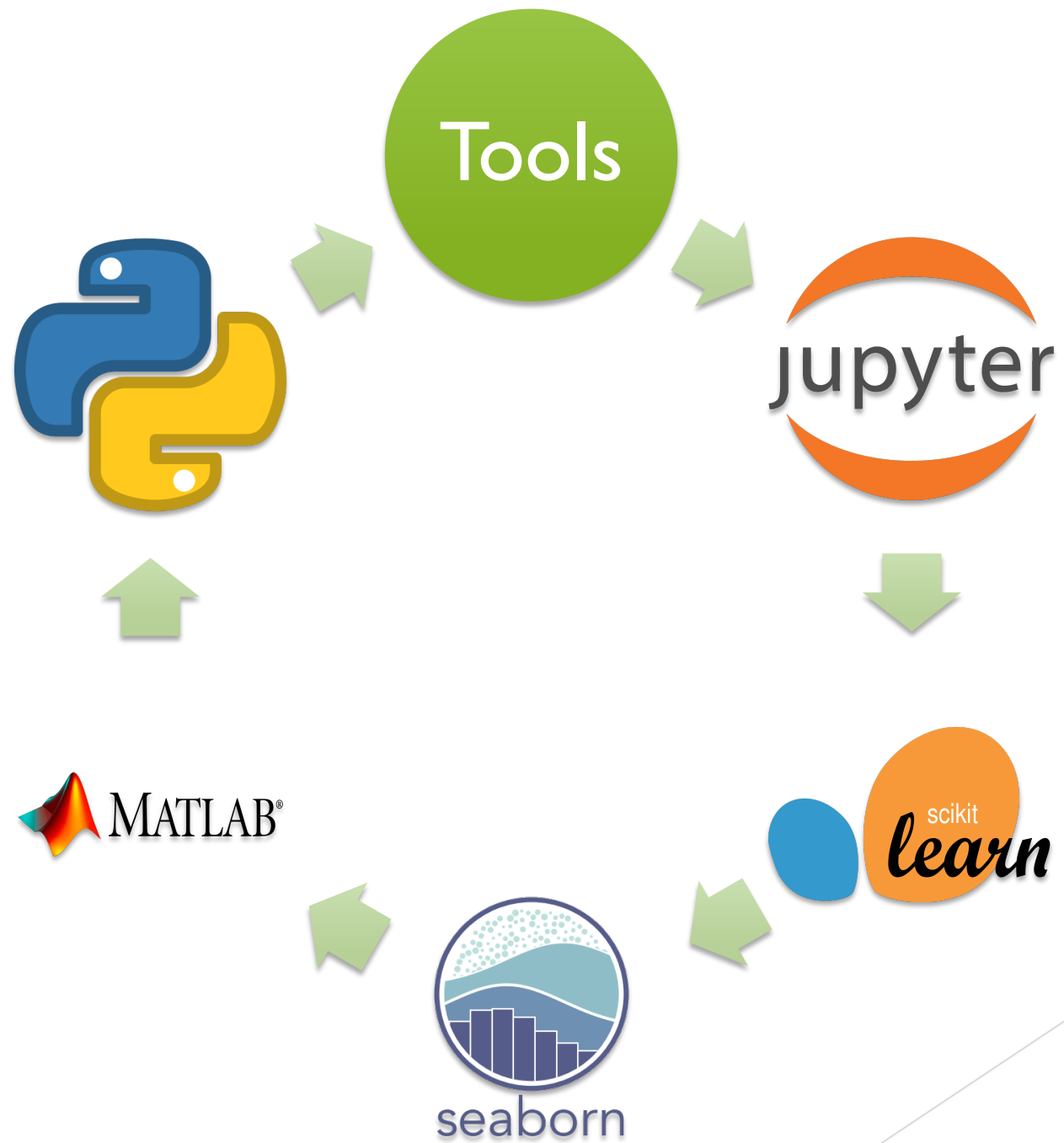
About Data

- ❑ **Features** (Customer data):

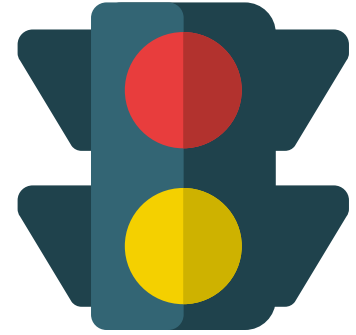
- ▶ Age
- ▶ Driving Experience
- ▶ Speed Violations
- ▶ Vehicle ownership
- ▶ Driving under the influence
- ▶ Past Accidents

- ❑ **Target:**

- ▶ Did the customer has claimed his/her loan or not.



Modelling



Training set 60%

Validation set 20%

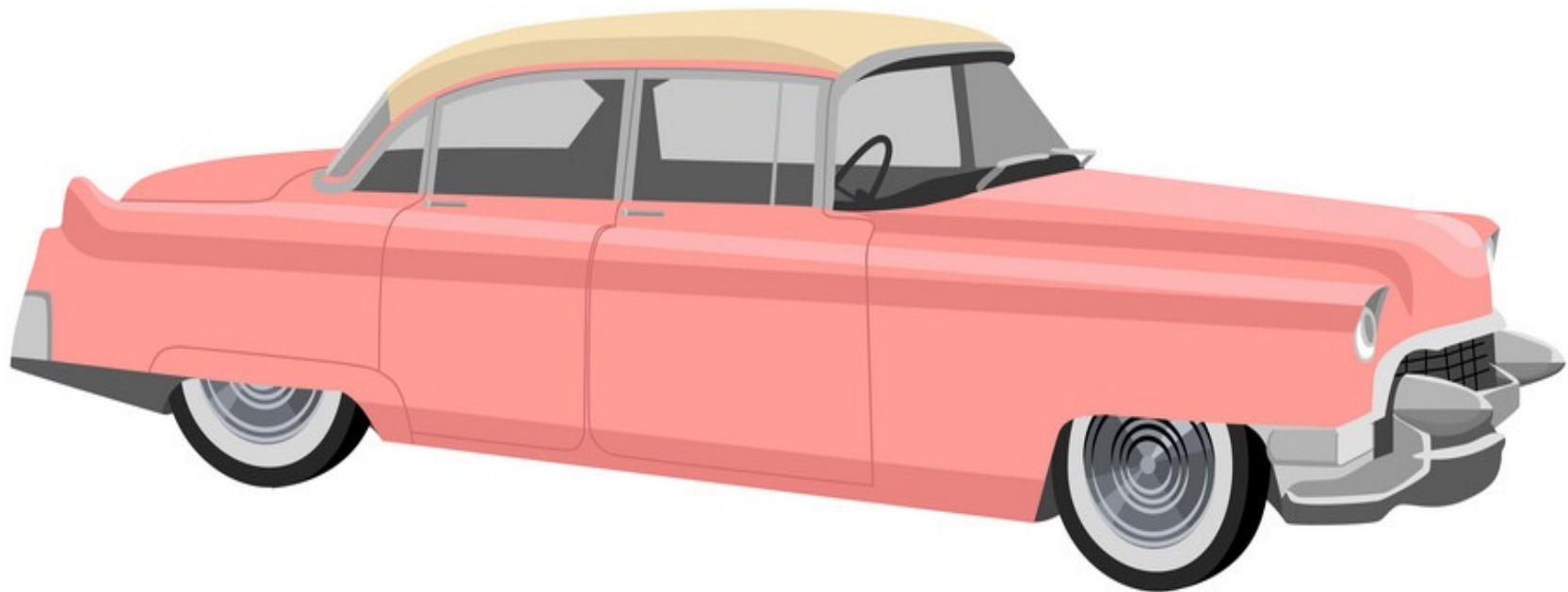
Test set 20%

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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