Loan Eligibility Predictor

Data Science Project

Agenda

- Data Science Lifecycle
- Project Overview
- Data
- Analysis
- Modeling
- Model Evaluation
- Recommendations

Data Science Lifecycle

- Business Understanding

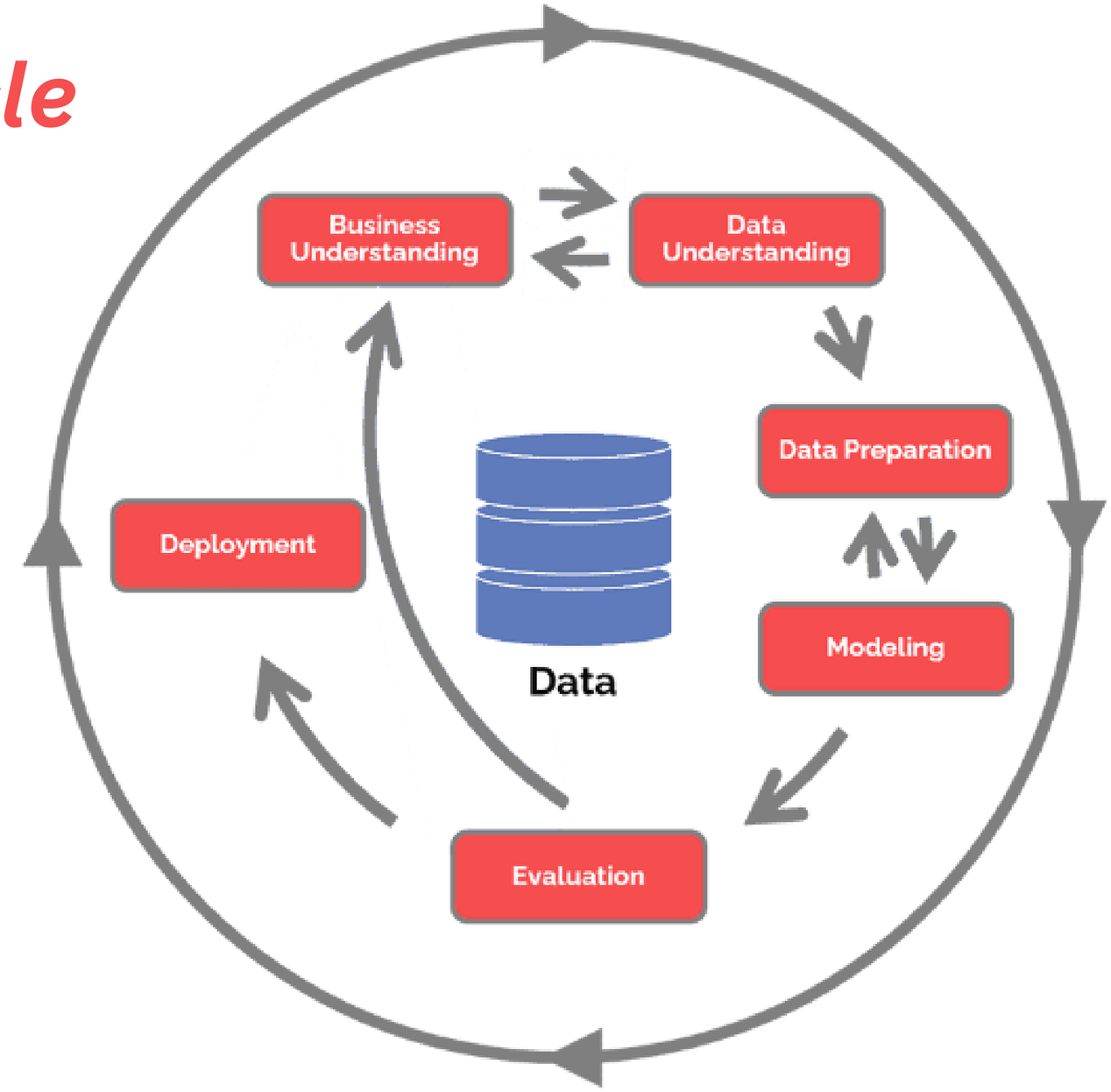
- Data Understanding

- Data Preparation

- Modeling

- Evaluation

- Deployment.



Project Overview

Business Problem:

Borrowers who had applied for loan have to wait for 2–3 days whether or not they have been granted the loan for the requested amount.

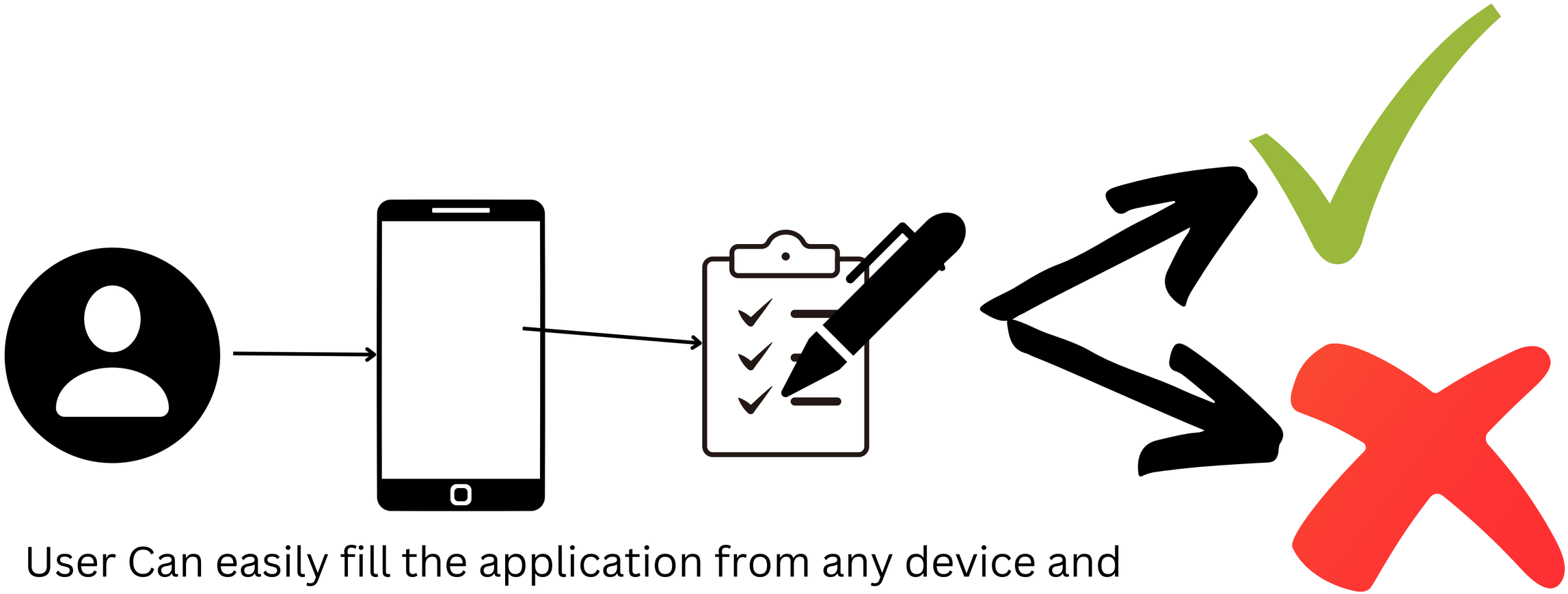
Business Objective:

Make a Model where system response immediately after completing their application.

Hypothesis:

With the help of our previous data, we make a model which predict the eligibility of a applicant immediately after filling the application.

Process Overview / Solution



User Can easily fill the application from any device and immediately Check the ELIGIBLITY .
The prediction will appear on the device as Accept or Decline on the same device in a matter of seconds

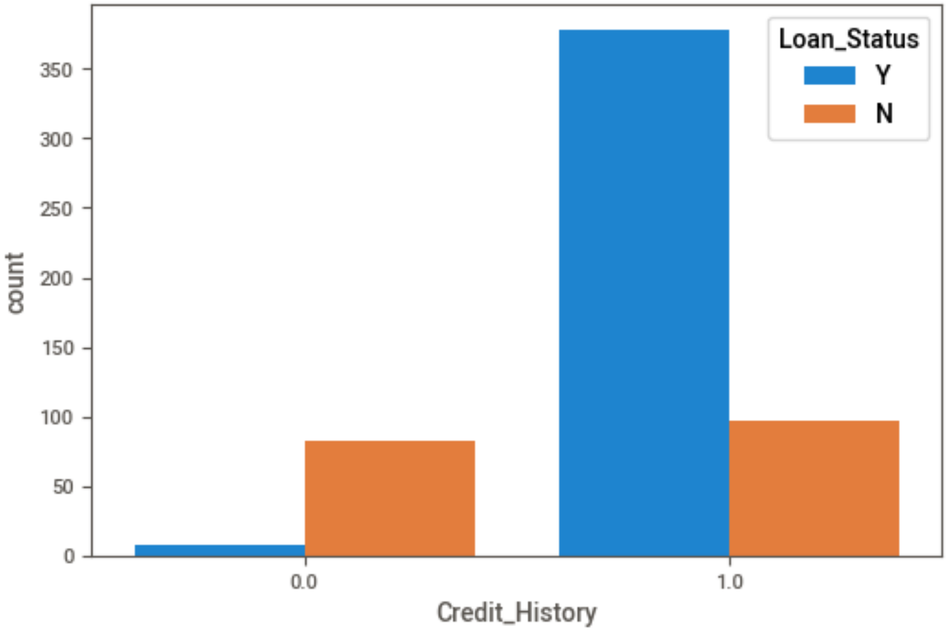
Data

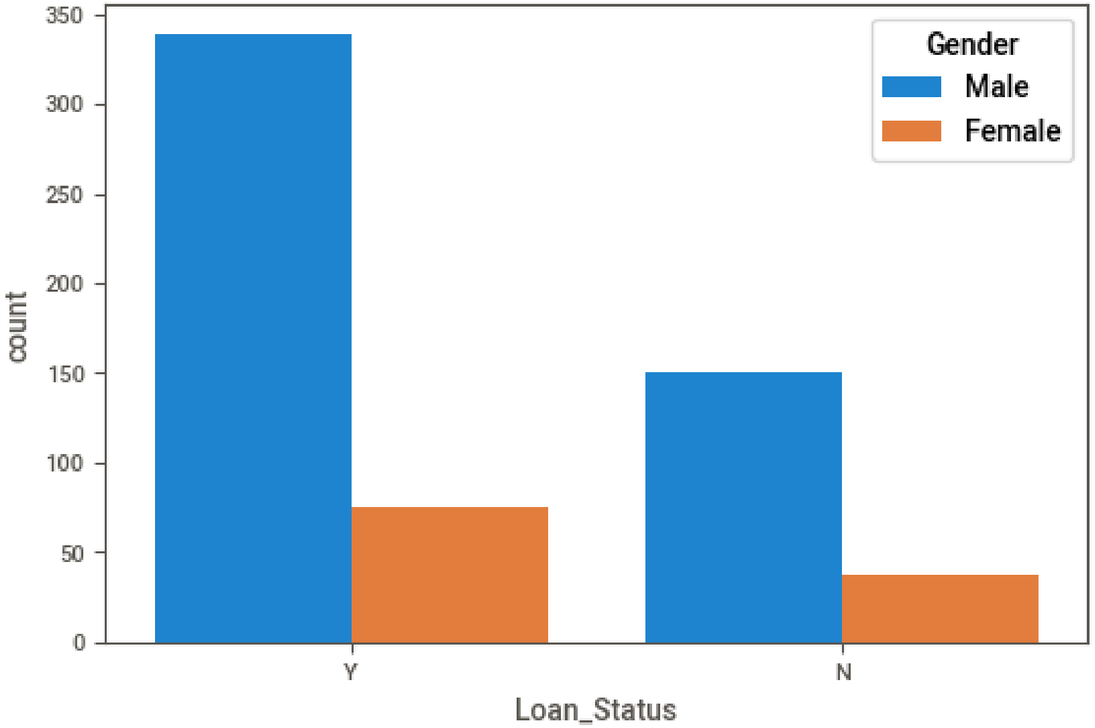
- The number of records – **614**
- The number of columns – **13**
- The number of numerical columns – **5**
- The number of categorical columns – **8**
- Target/Loan Status – **Y (422)** vs **N (192)**

Data

- In this data we use 13 features Which are given on next slide
- Features like Gender, Married Status, Education status, Applicant ,Income status, LoanAmount etc. are used in model.
- First 12 features are used as a **Independent Variable**
- Last features are used as a **Dependent Variable (Our Target)**

Analysis


Loan_Status
Y
N
count
0
50
100
150
200
250
300
350
0.0
1.0
Credit_History


Gender
Male
Female
count
0
50
100
150
200
250
300
350
Y
N
Loan_Status

Modeling

Here we can try to make a model having high accuracy.

So, We trained Machine learning Model through **AutoML**
and second time **Logistic Regression**
and then **Xtreme Graident Boosting** is used.

Model Evaluation

Accuracy with different Algorithms in our Model are as follows

AUTO ML- **79%**

Logistic regression- **65%**

Xtreme Gradient Booster - **81%**

Recommendations

- In our Model Xtreme Gradient boosting (XG-boosting) works better
  with accuracy of 81%.
- It is not necessary XG-boosting works well on model.
- Every Dataset has unique features, so we use error and trial method to achieve accuracy.