

Bank Customers and Churn



Prediction of whether bank's customers
Keep or close their account

By
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Business problem

Customer churn

Identifying segments

Price for acquiring a new customer

Prevent it by special offers

Make a model to predict customer's behavior

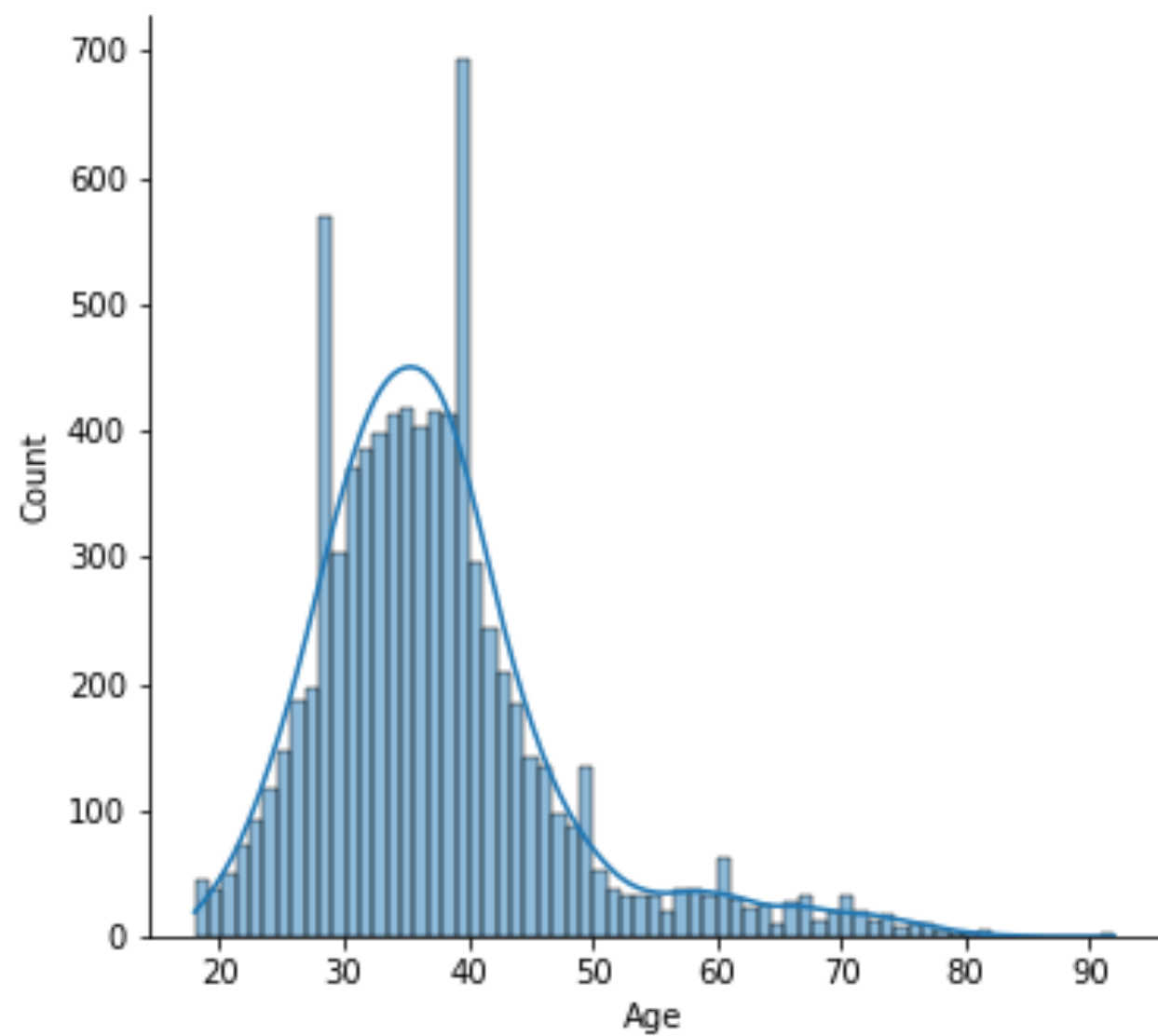


Data Description

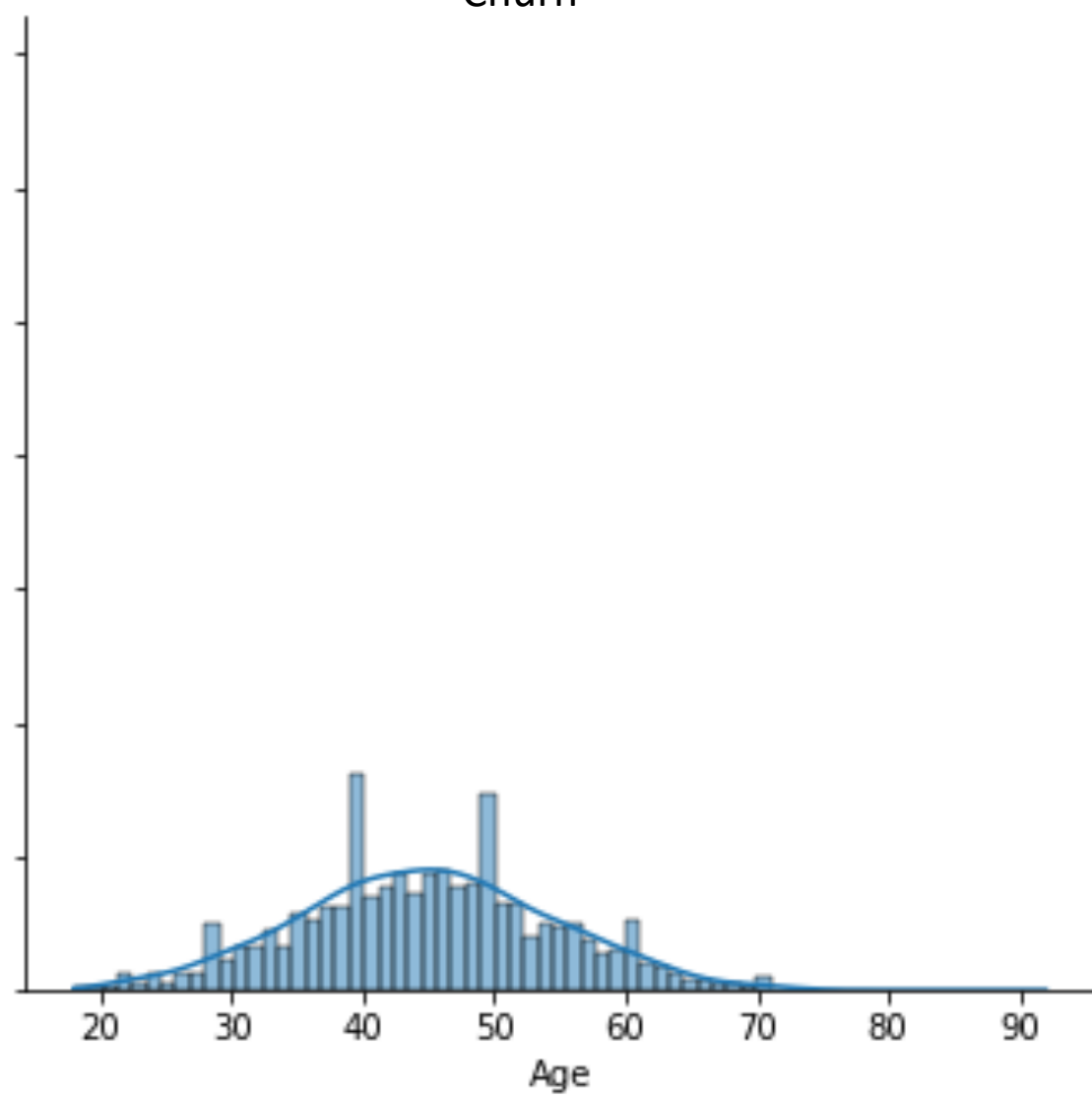
- Downloaded from Kaggle
- 10000 records of customer's bank
- Regions: France, Germany and Spain
- Customers demographics:
 - Age, Balance, Gender

The Kaggle logo, featuring the word "kaggle" in a light blue, lowercase, sans-serif font.

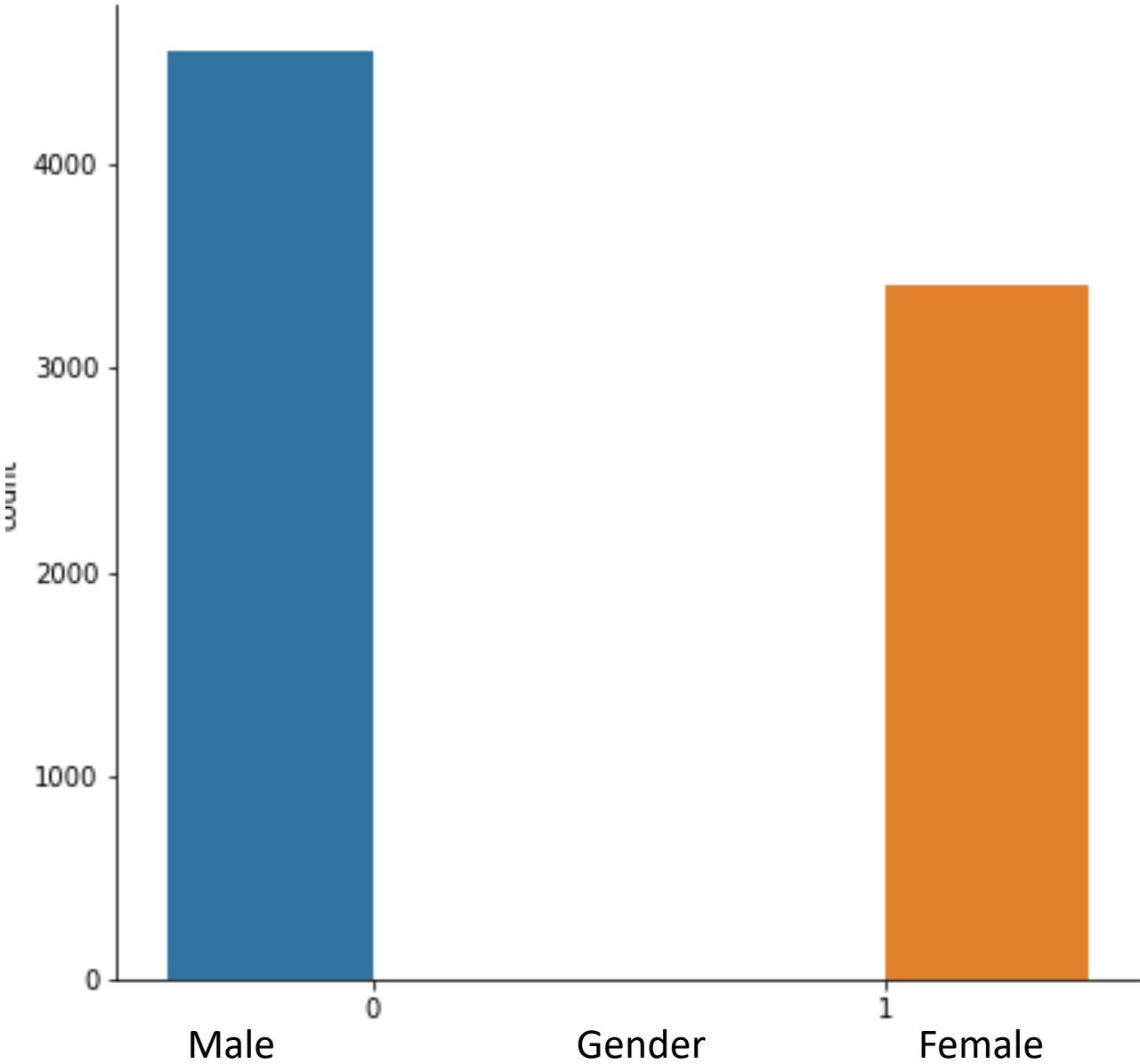
Stayed



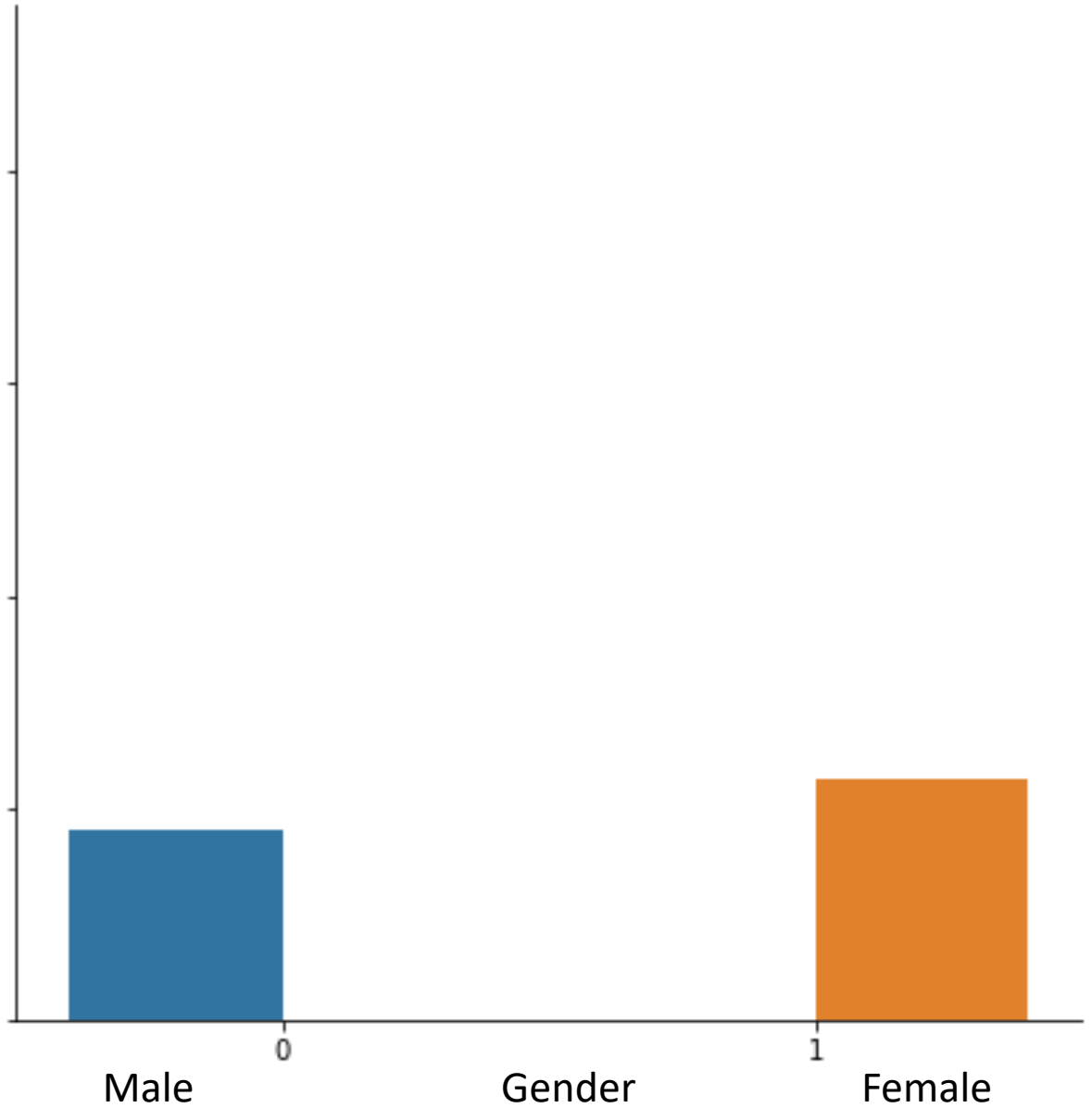
Churn



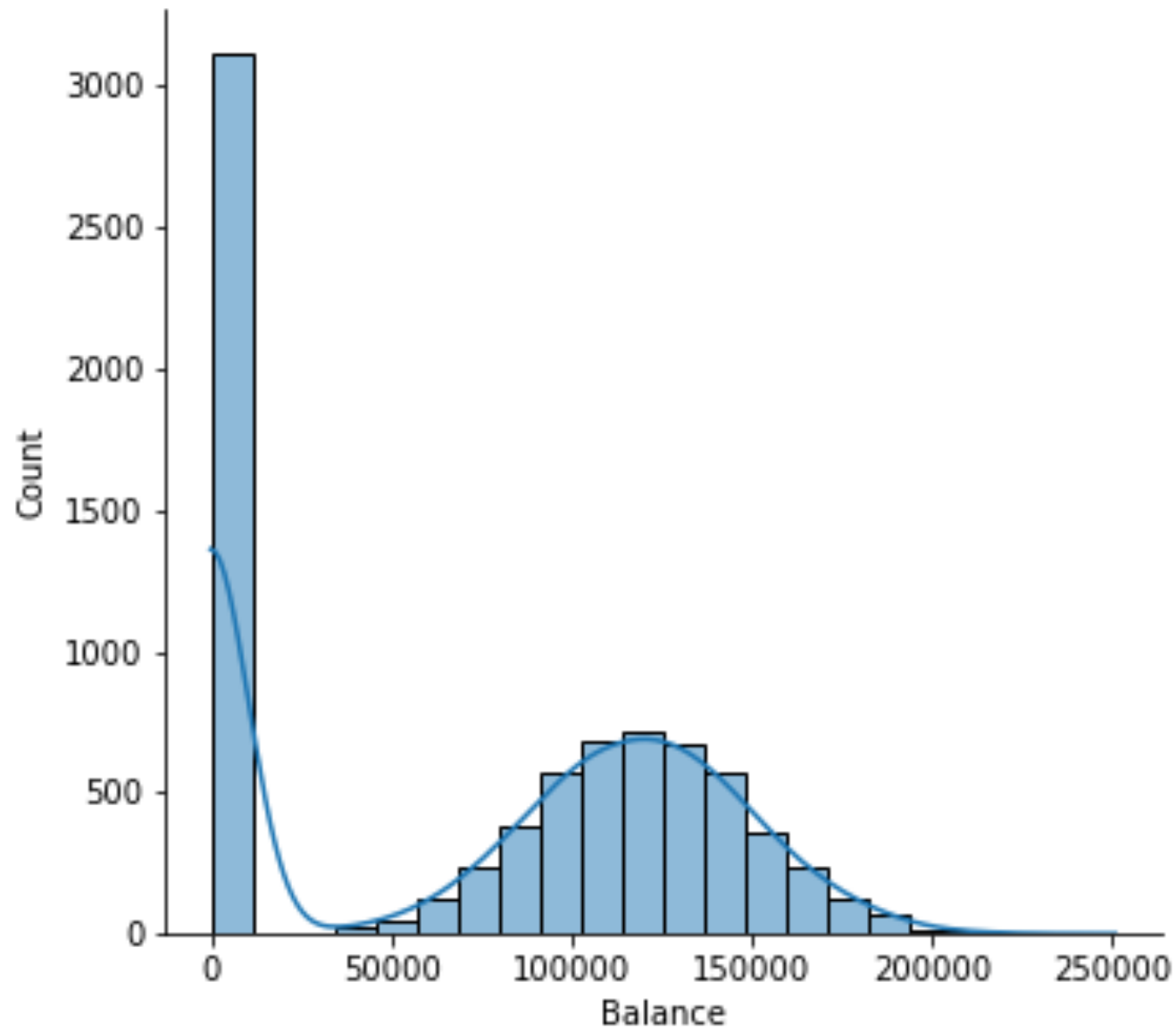
Stayed



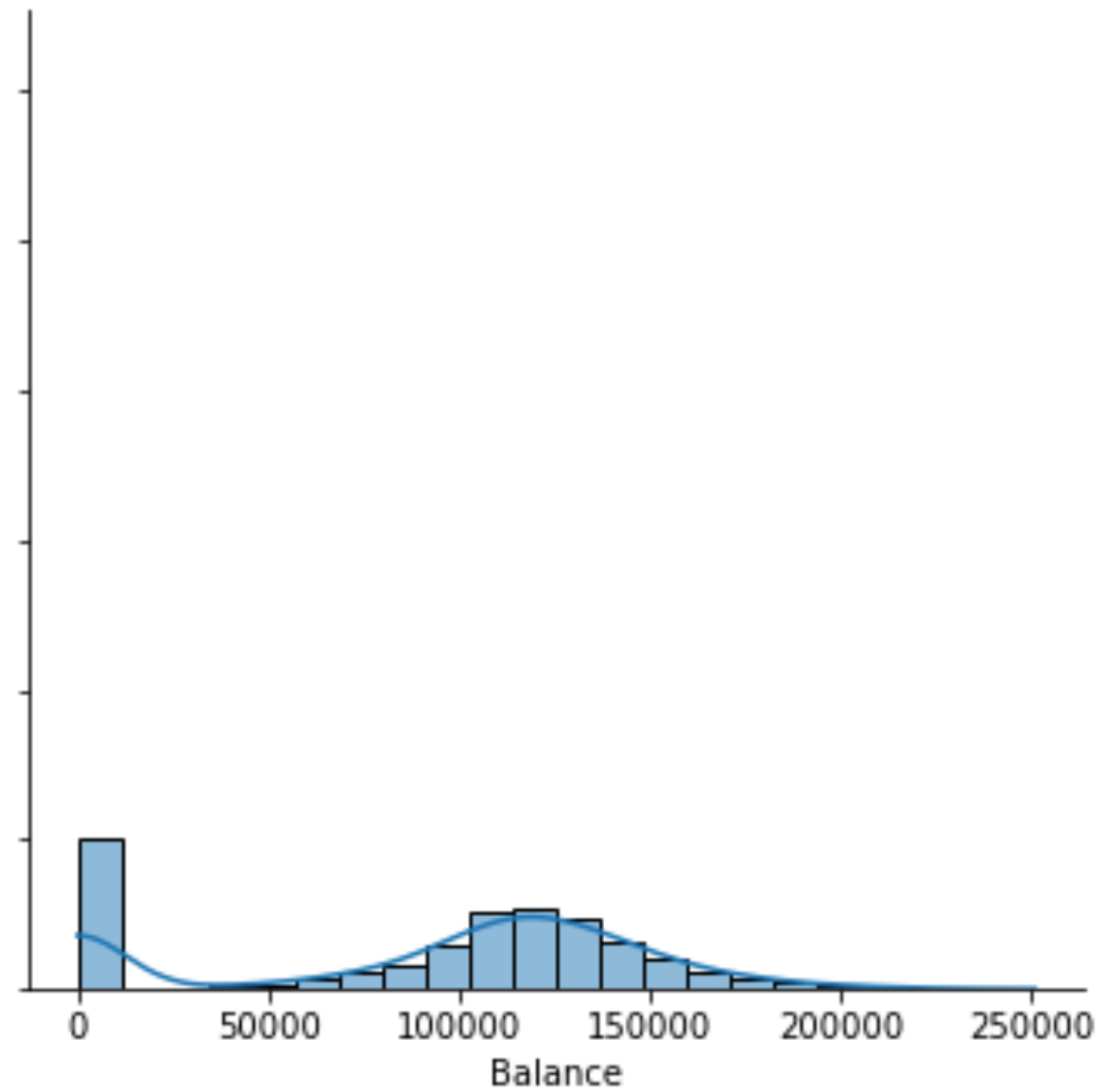
Churn



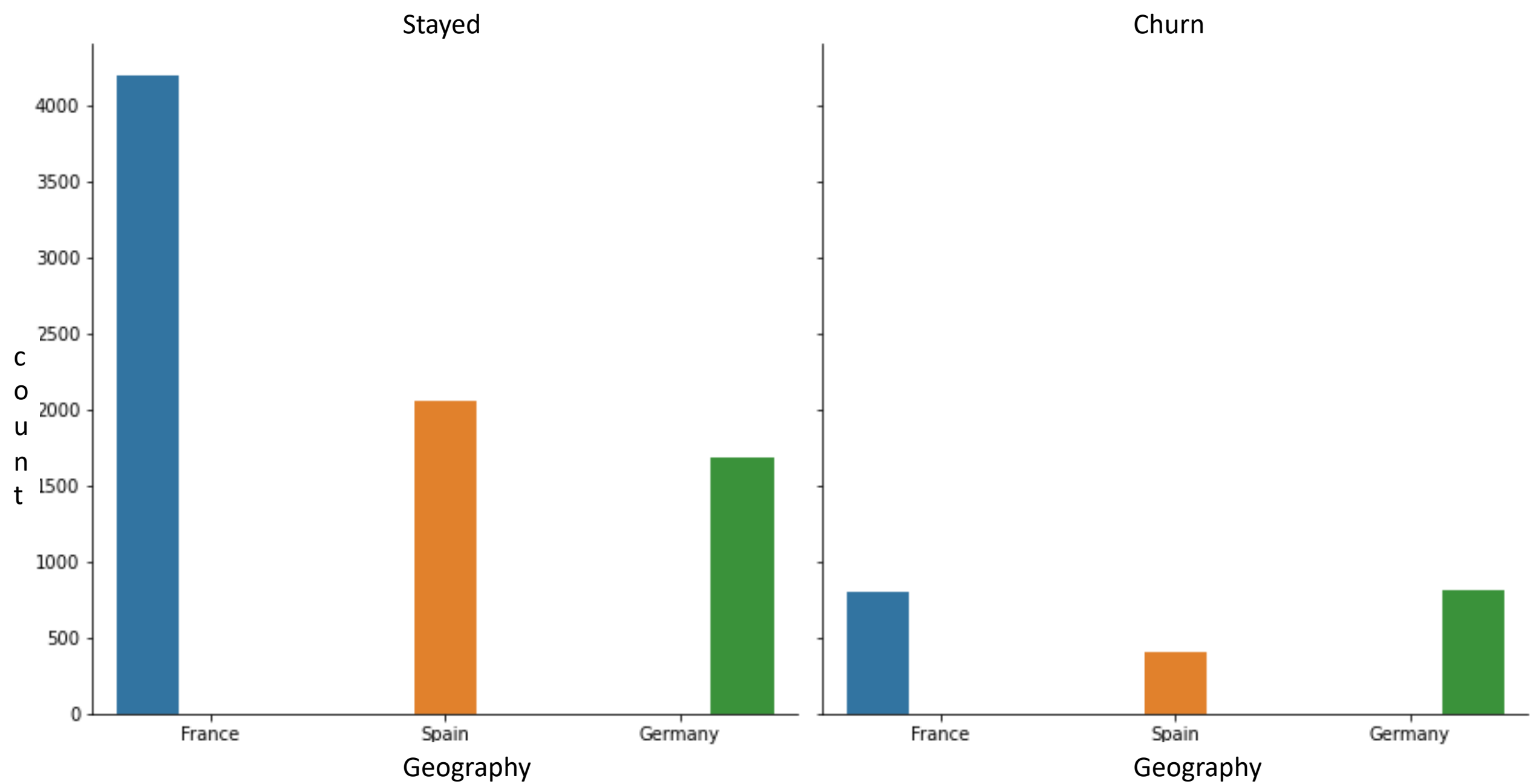
Stayed



Churn

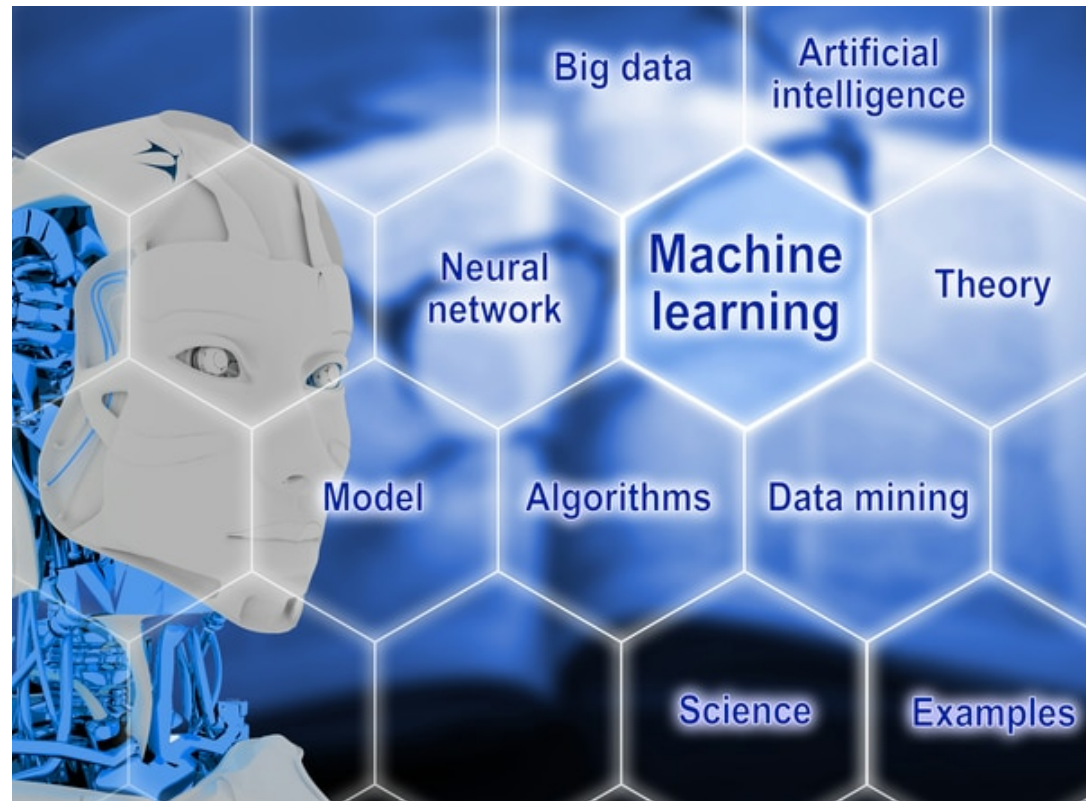


Class 0 = Stayed
Class 1 = Exited



Modeling

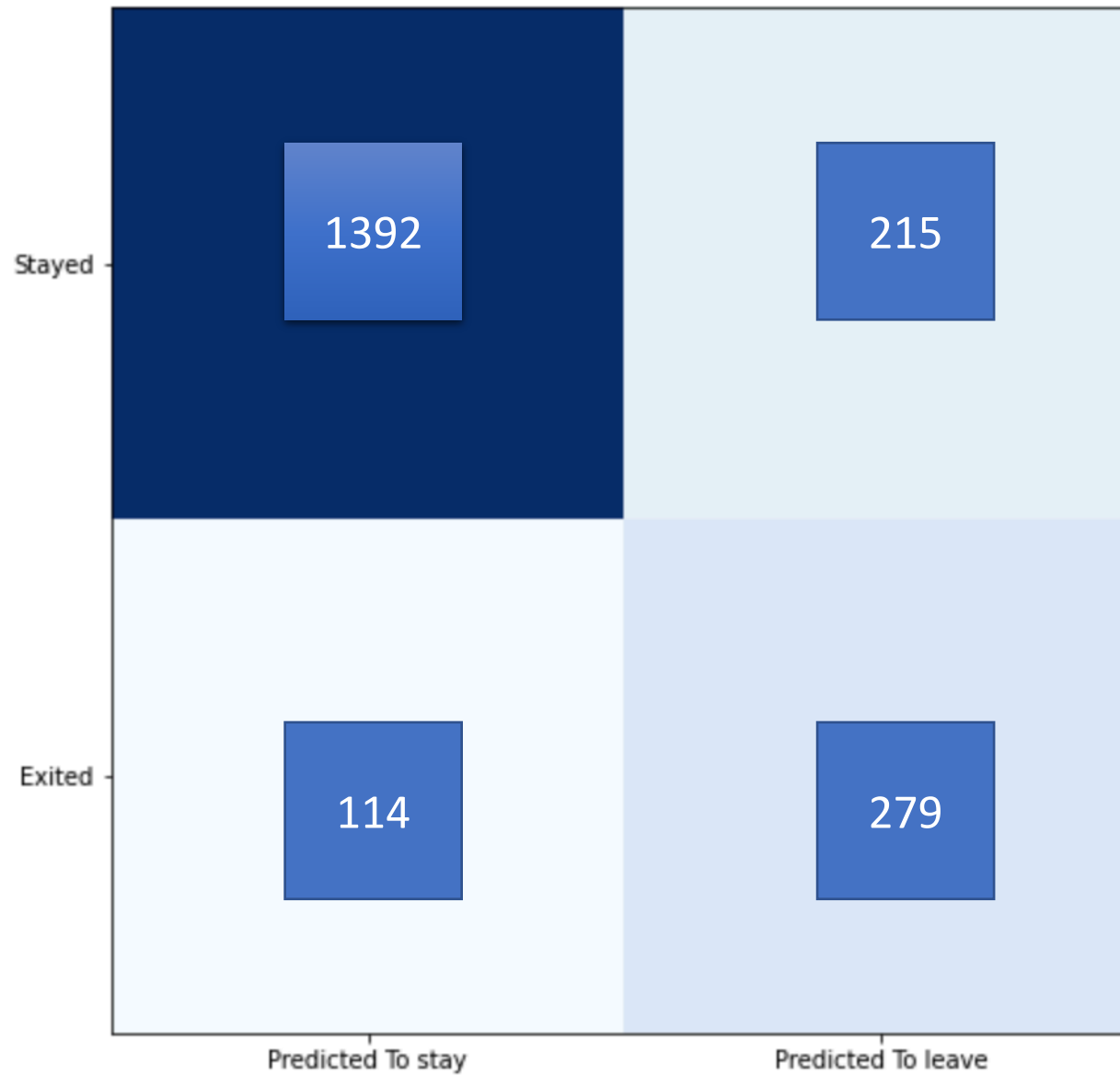
- Apply classification algorithms to predict binary outcome:
 - Churn and No churn
- Metric: f1-score



Models and improvement

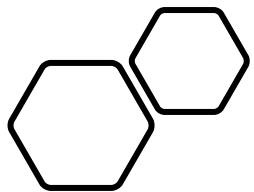
- Logistic Regression → F1 score ≈ 0.49
- Decision Tree → F1 score ≈ 0.50
- Random Forest → F1 score ≈ 0.59
- XGBoost → F1 score ≈ 0.60
- Random Forest → F1 score ≈ 0.63

Final model with Random forest



Next Step and Recommendations

- Is there any pattern between mobile customer and bank churn?
- Does my model work with another dataset?
- Extra data before churn
 - customer service call
 - in-person customers in bank
 - survey frequently
- Extra data after churn
 - last call
 - last visit



Thanks for your time



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