Credit Chronicles: Exploring Cardholder Behavior

Team: 8

Team Members:

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Description of the dataset:

This dataset comprises detailed information about 10,127 clients and their interactions with a financial institution. It includes demographic data such as age, gender, education level, marital status, and income category. Additionally, it provides insights into clients' credit card usage patterns, including credit limits, transaction amounts, and card categories, as well as their banking relationships, such as the total number of relationships and months of inactivity.

Smart Questions for a Project Proposal:

1. **Comparing Regression Models for Predicting Customer Churn:**
   Part 1: Which regression model is the most effective for predicting customer churn in the dataset, considering key features such as customer demographic and behavioral attributes like age, gender, credit utilization, and average balance?

   Part 2: We aim to evaluate logistic regression and decision tree regression models on the "Credit Card Bank Churn" dataset using key features: "Customer Age," "Gender," "Credit Limit," and "Total_Trans_Ct." The focus is on assessing predictive performance with metrics like accuracy, precision, recall, and F1 score in the context of customer churn prediction.

2. **Optimizing Model Evaluation for Timely Customer Churn Prediction:** How can we efficiently complete the model evaluation and selection process while considering computational constraints and the imperative need to predict customer churn within a realistic timeframe?

3. Identifying the optimal regression model for customer churn prediction in credit card banking involves striking a balance between interpretability and predictive accuracy. Considering features like 'Marital Status,' 'Income Category,' and 'Months_Inactive_12_mon,' the goal is to find a regression model that effectively balances both interpretability and accuracy.

Source of the Dataset:

This research project's dataset was obtained via Kaggle, a recognized site for sharing and accessing datasets. This large dataset contains around ten thousand observations, making it a reliable and significant resource for our project. [Link]

Link to our GitHub Repository:

https://github.com/Krishna-G39129775/Credit_Chronicles