



BFSI CASE STUDY

"Unveiling the Power of Predictive Analytics"

"Transforming Loan Approval at Home Credit"



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Agenda

- ❖ **Objective**
- ❖ **Summary**
- ❖ **Data Handling**
- ❖ **Feature Engineering**
- ❖ **Model Development**
- ❖ **Recommendations**
- ❖ **Business Implications**

Objective

Our mission is to revolutionize loan approval with an advanced predictive model, leveraging past applicant behavior and application data to empower Home Credit's decision-making process.

Summary

- ✧ The BFSI case study explores the implementation of predictive analytics to revolutionize Home Credit's loan approval process. Through meticulous data preprocessing and feature engineering, a random Forest classifier is trained to accurately assess loan applications.
- ✧ Recommendations include deploying the model, continuous data monitoring, and enhancing data collection efforts. Business implications include risk reduction, operational efficiency gains, strategic decision-making, and improved customer relationship management, positioning Home Credit for success in the dynamic financial landscape.

Data Handling

Comprehensive data cleaning and preprocessing were conducted on both application and bureau data to handle missing values and correct data formats.

Feature Engineering

Aggregated bureau data at the applicant level to capture credit behavior more effectively. Features like the number of trades reported, status of credit (active/closed), and maximum days overdue were derived to enrich the application data.

Model Development

Implement the trained Random Forest model into Home Credit's loan application assessment pipeline to provide real-time risk assessments.

Recommendations

- ✧ ***Model Deployment:*** Implement the trained Random Forest model into Home Credit's loan application assessment pipeline to provide real-time risk assessments.
- ✧ ***Continuous Data Monitoring:*** Regularly update the model with new data and monitor performance metrics to ensure continued relevance and accuracy.
- ✧ ***Enhanced Data Collection:*** Collect additional data points that could impact creditworthiness, such as more detailed employment history and behavioral data from loan management systems.
- ✧ ***Dynamic Feature Reevaluation:*** Periodically review and revise the feature set as financial behaviors and economic conditions evolve.

Business Implications

- ✧ **Risk Reduction:** The model will help reduce the risk of loan defaults by identifying high-risk applicants, which can significantly decrease financial losses.
- ✧ **Operational Efficiency:** Automating the credit scoring process will reduce the workload on staff and speed up the loan approval process, enhancing customer satisfaction.
- ✧ **Strategic Decision-Making:** Insights from the model can guide policy adjustments and strategic decisions, such as adjusting credit terms or developing targeted financial products for specific customer segments.
- ✧ **Customer Relationship Management:** Understanding risk profiles helps tailor communication and management strategies for different types of borrowers, potentially reducing defaults and improving customer retention.