PROJECT PROPOSAL - CAPSTONE 2

Problem Statement Worksheet (Hypothesis Formation)

Banks have to develop a machine learning model within 3 months to instantly predict credit card approval instead of waiting for a minimum of 7 days.

1 Context

Commercial banks receive a lot of applications for credit cards. Many of them get rejected for many reasons, like high loan balances, low-income levels, or too many inquiries on an individual's credit report, for example. Manually analyzing these applications is mundane, error-prone, and time-consuming (and time is money!). Fortunately, this task can be automated with the power of machine learning. In this project, we will build a model to predict credit card approval using machine learning techniques, so these issues can be solved.

2 Criteria for success

A machine learning model for predicting credit card approval instantly has been developed within 3 months.

3 Scope of solution space

Develop a machine learning model to predict credit card approval by collecting information of customers who applied for credit card.

4 Constraints within solution space

Regulatory Compliance: Must meet legal standards for fairness, transparency, and data privacy.

Data Quality: Limited, missing, or imbalanced data can reduce model accuracy.

Model Explainability: Model decisions must be interpretable and easily justified.

System Integration: The model must integrate smoothly with existing banking systems.

Fairness and Bias: Predictions must not discriminate against protected groups.

5 Stakeholders to provide key insight

1. Head of Retail Banking / Credit Department
2. Credit Risk Managers
3. Product Managers
4. Customer Relationship / Operations Teams

6 Key data sources

Credit card dataset from Kaggle;
https://www.kaggle.com/datasets/rikdifos/credit-card-approval-prediction?utm_source=chatgpt.com&select=credit_record.csvhttps://insideairbnb.com/get-the-data/

Deliverables

A GitHub repo containing the work you complete for each step of the project, including:

- A slide deck
- A project report