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Final Project



PROJECT TITLE

**Determining Customer Creditworthiness
with Decision Trees**

AGENDA

1. Problem statement
2. Project overview
3. Who are the end users
4. Your solution and its value proposition
5. The wow in your solution
6. Modelling
7. Result



PROBLEM STATEMENT

Financial institutions face the challenge of accurately assessing the creditworthiness of customers to mitigate the risk associated with lending. The objective of this project is to develop a predictive model using decision trees to determine whether a customer is likely to be creditworthy based on various attributes such as income, employment status, and credit history.



PROJECT OVERVIEW

In today's financial landscape, the ability to accurately evaluate customer creditworthiness is paramount for prudent lending decisions. This project endeavors to address this challenge by harnessing the power of decision trees, a versatile and interpretable machine learning algorithm, to predict whether a customer is creditworthy.



WHO ARE THE END USERS?

In the context of determining customer creditworthiness with decision trees, the end users can be categorized into several groups, each with distinct roles and responsibilities

- **Financial Institutions**
- **Regulatory Bodies**
- **Customers**
- **Data Scientists and Analysts**
- **Management and Decision Makers**

YOUR SOLUTION AND ITS VALUE PROPOSITION



The solution involves developing a predictive model using decision trees to assess the creditworthiness of customers applying for loans or credit. By leveraging historical customer data and machine learning algorithms, the solution aims to provide financial institutions with a reliable tool for making informed lending decisions while mitigating credit risk.

THE WOW IN YOUR SOLUTION

In addition to its core functionalities and value propositions, the solution boasts several standout features that contribute to its WOW factor:

- **Interactive Decision Tree Visualization**
- **Explainable AI (XAI) Capabilities**
- **Dynamic What-If Analysis**
- **Personalized Customer Insights Dashboard**
- **Continuous Model Improvement and Adaptation**
- **Gamification Elements for User Engagement**



MODELLING

Teams can add wireframes

Modeling Process:

1. Data Preprocessing:
2. Train-Test Split
3. Build Decision Tree Model
4. Hyperparameter Tuning
5. Model Evaluation
6. Model Interpretation
7. Optional: Ensemble Methods
8. Validation and Fine-Tuning
9. Deployment
10. Monitoring and Maintenance
11. Documentation
12. Communication

RESULTS

The result of the solution for determining customer creditworthiness with decision trees would be a predictive model that accurately assesses whether a customer is likely to be creditworthy based on various attributes. Here are some specific outcomes and results that can be expected:

- **Model Performance Metrics**
- **Interpretation of the Decision Tree Model**
- **Visualization of the Decision Tree**
- **Model Deployment and Integration**
- **Validation and Monitoring**
- **Impact on Lending Decisions and Risk Management**
- **Customer Outcomes and Satisfaction**

[Demo Link](#)