Startup Prophet

Milestone 1: Project Initialization and Planning Phase

The "Project Initialization and Planning Phase" marks the project's outset, defining goals, scope, and stakeholders. This crucial phase establishes project parameters, identifies key team members, allocates resources, and outlines a realistic timeline. It also involves risk assessment and mitigation planning. Successful initiation sets the foundation for a well-organized and efficiently executed machine learning project, ensuring clarity, alignment, and proactive measures for potential challenges.

Activity 1: Define Problem Statement

The Startup Prophet aims to assist first-time startup founders in predicting the success of their ventures. These founders often struggle with limited historical data and market insights, making it difficult to gauge the potential of their novel business ideas. By providing comprehensive analysis and predictions, the Startup Prophet alleviates the uncertainty and helps founders feel more confident about their startup's future and its attractiveness to investors.

Ref. template: Click Here
Startup prophet Problem Statement Report: Click Here

Activity 2: Project Proposal (Proposed Solution)

The proposal report aims to the startup prophet project, "Startup Prophet," is to develop a sophisticated machine learning model capable of accurately classifying and predicting startup success or failure based on a variety of data inputs. This involves analyzing diverse datasets to uncover the key factors that influence success or failure and creating a user-friendly application that provides insights and predictions on startup success or failure. The main goal is to contribute to the understanding of well-being, offering valuable tools and knowledge to individuals and organizations to enhance overall startup growth.

Ref. template: Click Here
Startup prophet Project Proposal Report: Click Here

Activity 3: Initial Project Planning

Initial Project Planning involves outlining key objectives, defining scope, and identifying stakeholders for a loan approval system. It encompasses setting timelines, allocating resources, and determining the overall project strategy. During this phase, the team establishes a clear understanding of the dataset, formulates goals for analysis, and plans the workflow for data processing. Effective initial planning lays the foundation for a systematic and well-executed project, ensuring successful outcomes.

Ref. template: Click Here
Startup prophet Project Planning Report: Click Here

Milestone 2: Data Collection and Preprocessing Phase

The Data Collection and Preprocessing Phase involves executing a plan to gather startup success.

application data from Kaggle, ensuring data quality through verification and addressing missing values. Preprocessing tasks include cleaning, encoding, and organizing the dataset for subsequent exploratory analysis and machine learning model development.

Activity 1: Data Collection Plan, Raw Data Sources Identified, Data Quality Report

"Startup Prophet leverages machine learning to predict success rates of tech startups based on various metrics, aiding investors in decision-making processes. The project aims to offer actionable insights through data analysis and predictive modeling, optimizing investment strategies in the tech industry."
Ref. template: Click Here
Startup prophet Data Collection Report: Click Here

Activity 2: Data Quality Report

The Data Quality Report will summarize data quality issues from the selected source, including severity levels and resolution plans. It will aid in systematically identifying and rectifying data discrepancies.
Ref. template: Click Here
Startup prophet Data Quality Report: Click Here

Activity 3: Data Exploration and Preprocessing

Dataset variables will be statistically analyzed to identify patterns and outliers, with Python employed for preprocessing tasks like normalization and feature engineering. Data cleaning will address missing values and outliers, ensuring quality for subsequent analysis and modeling, and forming a strong foundation for insights and predictions.
Ref. template: Click Here
Startup prophet Data Exploration and Preprocessing Report: Click Here

Milestone 3: Model Development Phase

The Model Development Phase entails crafting a predictive model for startup success. It encompasses strategic feature selection, evaluating and selecting models (Random Forest, logistic regression, support

vector machine), initiating training with code, and rigorously validating and assessing model performance for informed decision-making in the predicting process.

Activity 1: Feature Selection Report

In the forthcoming update, each feature will be accompanied by a brief description. Users will indicate whether it's selected or not, providing reasoning for their decision. This process will streamline decision-making and enhance transparency in feature selection

Ref. template: **Click Here**

Startup prophet Feature Selection Report: **Click Here**

Activity 2: Model Selection Report

In the forthcoming Model Selection Report, various models will be outlined, detailing their descriptions, hyperparameters, and performance metrics, including Accuracy or F1 Score. This comprehensive report will provide insights into the chosen models and their effectiveness.

Ref. template: **Click Here**

Startup prophet Model Selection Report: **Click Here**

Activity 3: Initial Model Training Code, Model Validation and Evaluation Report

The initial model training code will be showcased in the future through a screenshot. The model validation and evaluation report will include classification reports, accuracy, and confusion matrices for multiple models, presented through respective screenshots.

Ref. template: **Click Here**

Startup prophet Model Development Phase Template: Click Here

Milestone 4: Model Optimization and Tuning Phase

The Model Optimization and Tuning Phase involves refining machine learning models for peak performance. It includes optimized model code, fine-tuning hyperparameters, comparing performance metrics, and justifying the final model selection for enhanced predictive accuracy and efficiency.

Activity 1: Hyperparameter Tuning Documentation

The Gradient Boosting model was selected for its superior performance, exhibiting high accuracy during hyperparameter tuning. Its ability to handle complex relationships, minimize overfitting, and optimize predictive accuracy aligns with project objectives, justifying its selection as the final model.

Activity 2: Performance Metrics Comparison Report

The Performance Metrics Comparison Report contrasts the baseline and optimized metrics for various models, specifically highlighting the enhanced performance of the Gradient Boosting model. This assessment provides a clear understanding of the refined predictive capabilities achieved through hyperparameter tuning.

Activity 3: Final Model Selection Justification

The Model Optimization and Tuning Phase involves refining machine learning models for peak performance. It includes optimized model code, fine-tuning hyperparameters, comparing performance metrics and justifying the final model selection for enhanced predictive accuracy and efficiency.

Ref. template: Click Here

Startup prophet Model Optimization and Tuning Phase Report: Click Here

Milestone 5: Project Files Submission and Documentation

For project file submission in Github, Kindly click the link and refer to the flow. **Click Here**

For the documentation, Kindly refer to the link. Click Here

Milestone 6: Project Demonstration

In the upcoming module called Project Demonstration, individuals will be required to record a video by sharing their screens. They will need to explain their project and demonstrate its execution during the presentation.