Prosperity Prognosticator

Machine Learning for Startup Success Prediction

Project Overview

Prosperity Prognosticator is a machine learning project designed to predict
the likelihood of startup success using historical startup data. The system analyzes funding,
industry sector,
founding team experience, market size, and growth metrics to generate a predictive success score.

Objectives

• Build a predictive ML model for startup success classification.
• Perform exploratory data analysis (EDA).
• Compare multiple ML algorithms.
• Deploy a prediction interface (optional).
• Identify key success-driving features.

Problem Statement

Startups have high failure rates. Investors and founders need data-driven insights
to evaluate startup viability. This project predicts startup success and provides a probability-based
confidence score.

Machine Learning Approach

1. Data Collection – Public/Kaggle startup datasets.
2. Data Preprocessing – Handle missing values, encoding, scaling, train-test split.
3. Model Selection – Logistic Regression, Random Forest, XGBoost, SVM.
4. Model Evaluation – Accuracy, Precision, Recall, F1-score, ROC-AUC.
5. Optimization – Hyperparameter tuning and cross-validation.

Features Used

Funding amount, funding rounds, founder experience, industry type, market size, employee count, revenue growth, and location.

Tech Stack

Python, Pandas, NumPy, Scikit-learn, Matplotlib, Seaborn, XGBoost, Streamlit.

Timeline

Phase 1: Data Collection – 3 Days
Phase 2: EDA – 3 Days
Phase 3: Model Building – 5 Days
Phase 4: Optimization – 3 Days
Phase 5: Deployment – 3 Days
Total Duration: 2–3 Weeks

Future Improvements

Deep Learning integration, real-time dashboard, API integration, and investor recommendation system.