Project Planning Template

Prosperity Prognosticator: ML For Startup Success Prediction

1. Project Overview

Field	Details
Project Name	**Prosperity Prognosticator**
Project Type	**Machine Learning + Web Application**
Domain	**Artificial Intelligence / Startup Analytics**
Duration	**4 Weeks**
Team Size	**Individual / Small Team**
Technology	**Python, Scikit-learn, Flask, HTML**

2. Work Breakdown Structure (WBS)

- 1. Data Collection and Preparation
  - 1.1 Download startup_data.csv from Kaggle
  - 1.2 Load and inspect dataset
  - 1.3 Handle missing values
  - 1.4 Encode categorical columns
- 2. Exploratory Data Analysis
  - 2.1 Descriptive statistics
  - 2.2 Class distribution visualization
  - 2.3 Correlation heatmap
  - 2.4 Feature distribution plots
- 3. Model Building
  - 3.1 Split data into train/test sets
  - 3.2 Define evaluation function
  - 3.3 Train 6 ML algorithms
  - 3.4 Compare and plot accuracy results
- 4. Performance Testing and Tuning

- 4.1 Apply GridSearchCV on best model
- 4.2 Compare before/after tuning accuracy
- 4.3 Extract and rank feature importances
- 4.4 Retrain with top 10 features

- 5. Model Deployment
  - 5.1 Save model and features with Pickle
  - 5.2 Create Flask app.py with routes
  - 5.3 Build index.html, result.html
  - 5.4 Test full application end-to-end

3. Project Schedule

Week	Tasks	Deliverable
Week 1	**Data Collection, Preparation, EDA**	**Cleaned dataset, EDA charts, Notebook**
Week 2	**Model Building – Train all 6 algorithms**	**Model comparison table and accuracy plot**
Week 3	**Hyperparameter Tuning, Feature Selection**	**Tuned model, feature importance chart**
Week 4	**Model Deployment – Flask App + HTML**	**Working web application**

4. Resource Plan

Resource	Tool/Platform	Purpose
Dataset	**Kaggle.com**	**Download startup_data.csv**
Development	**Jupyter Notebook / VS Code**	**ML development and Flask coding**
Libraries	**pip install sklearn flask pandas numpy**	**Core ML and web libraries**
Testing	**Web Browser (Chrome/Firefox)**	**Test Flask application**
Version Control	**Git (optional)**	**Track code changes**