Project Initialization and Planning Phase

Date	19 July 2025
ProjectName	Machine Learning Approach for Employee Performance Prediction
Maximum Marks	

Project Proposal (Proposed Solution) report

To design and implement a machine learning-powered web application that predicts employee performance based on historical data, training records, and feedback. The system aims to assist HR professionals in making informed decisions regarding promotions, training needs, and workforce planning.

Project Overview	
Objective	To develop a web-based application that predicts employee performance using machine learning models, enabling HR teams to make data-driven decisions for talent management, training, and retention strategies.
Scope	The project involves designing a machine learning-powered web app to predict employee performance using historical data, training records, and feedback, aiding HR decisions on promotions, training needs, and workforce planning
Project Statement	
Description	A web app using machine learning to predict employee performance from historical data, aiding HR decisions and workforce planning.
Impact	Improves HR efficiency, reduces bias, enhances talent management, and supports data-driven decisions for employee growth and organizational success.

Proposed Solution	
Approach	Use machine learning with structured sprints: data preprocessing, model training, evaluation, tuning, and web integration via Flask and HTML.
Key Features	Performance prediction, categorized output, clean UI, Flask backend, CSS styling, local deployment, and structured documentation for GitHub sharing.

Resourse Requrements

Resource Type	**Description**	**Specification/Allocation**
Hardware		
Computing Resources	CPU/GPU specification	T4 GPU
Memory	RAM	8GB
Storage	Disk space for Data,model,logs	1TB SSD
Software		
Frameworks	Python frameworks	Flask
Libraries	Additional libraries	scikit-learn, pandas, numpy, matplotlib, seaborn
Development Env.	IDE	VS Code
Data		
Data	source, size, format	Kaggle dataset,95,csv