Project Initialization and Planning Phase

Date	15 March 2024
Team ID	xxxxxx
Project Title	Human Resource Management: Predicting Employee Promotions Using Machine Learning
Maximum Marks	3 Marks

Project Proposal (Proposed Solution) template

This project proposal outlines a solution to address a specific problem. With a clear objective, defined scope, and a concise problem statement, the proposed solution details the approach, key features, and resource requirements, including hardware, software, and personnel.

Project Overview	
Objective	To develop a machine learning model that predicts employee promotions based on various performance metrics, tenure, skills ensuring a fair and transparent promotion process.
Scope	The project will include the development of a web application using Flask, which will allow HR professionals to input employee data and receive promotion predictions. The application will also incorporate performance optimization techniques to ensure efficient data processing and quick response times
Problem Statement	
Description	Organizations face significant challenges in managing employee promotions efficiently and fairly due to the sheer volume of data, potential biases, and the need for transparent processes
Impact	Solving this problem will streamline promotion processes, ensure fairness, enhance retention, and foster a culture of meritocracy and career progression, ultimately contributing to organizational growth and employee satisfaction
Proposed Solution	
Approach	The solution involves creating a machine learning model to predict

	employee promotions. The model will be integrated into a Flask web application where HR professionals can input employee data and receive predictions. The application will use caching and performance optimization techniques to handle data efficiently.
Key Features	Highlight the unique aspects of the proposed solution

Resource Requirements

Resource Type	Description	Specification/Allocation
Hardware		
Computing Resources	CPU/GPU specifications, number of cores	Intel Core i5, 4 cores
Memory	RAM specifications	8GB RAM
Storage	Disk space for data, models, and logs	512GB SSD
Software		
Frameworks	Python frameworks	Flask, scikit-learn, NumPy
Libraries	Additional libraries	Pandas, joblib, TensorFlow
Development Environment	IDE, version control	VS Code, Jupyter Notebook, Git
Data		
Data	Source, size, format	employee_promotion_csv (54809 rows)