

Project Initialization and Planning Phase

Date	25 June 2025
Team ID	SWTID1750155746
Project Title	Human Resource Management: Predicting Employee Promotions using Machine Learning
Maximum Marks	3 Marks

Project Proposal (Proposed Solution) report

The proposal report aims to transform the employee promotion process using machine learning, enhancing fairness and consistency. It addresses evaluation inefficiencies, ensuring better decision-making, reduced bias, and improved employee satisfaction. Key features include a machine learning-based prediction model and data-driven promotion eligibility assessment.

Project Overview	
Objective	The primary objective is to enhance the employee promotion process by implementing machine learning techniques, ensuring fair, consistent, and data-driven promotion decisions.
Scope	The project comprehensively analyzes and improves the employee promotion process, integrating machine learning to create a more reliable and efficient evaluation system.
Problem Statement	
Description	Addressing biases and inconsistencies in the current promotion system is crucial, as they negatively impact employee morale and organizational effectiveness.
Impact	Solving these issues will lead to fairer promotion decisions, increased employee satisfaction, and stronger organizational performance, contributing to a transparent and motivated workplace culture.
Proposed Solution	
Approach	Employing machine learning techniques to analyze employee data and predict promotion eligibility, creating a transparent and data-driven evaluation system.
Key Features	- Implementation of a machine learning-based employee promotion prediction model.

	<ul style="list-style-type: none"> - Real-time prediction for faster promotion assessments. - Continuous model learning to adapt to changing employee performance trends.
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Resource Requirements

Resource Type	Description	Specification/Allocation
Hardware		
Computing Resources	CPU/GPU specifications, number of cores	T4 GPU
Memory	RAM specifications	8 GB
Storage	Disk space for data, models, and logs	1 TB SSD
Software		
Frameworks	Python frameworks	Flask
Libraries	Additional libraries	scikit-learn, pandas, numpy, matplotlib, seaborn
Development Environment	IDE	Google Colab, VS Code
Data		
Data	Source, size, format	Kaggle dataset, 54808, csv