

Project Initialization and Planning Phase

Date	9 July 2024
Team ID	SWTID1720104839
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 promotion based on various factors such as performance metrics, tenure, skills, and feedback. This project aims to enhance workforce management strategies by identifying high-potential employees deserving of advancement opportunities, thereby fostering employee engagement, retention, and organizational growth.
Scope	The project scope includes data collection, preprocessing, and feature engineering to develop a predictive model that identifies high-potential employees. The model will be deployed, maintained, and updated to ensure accurate predictions, and its results will be visualized and interpreted to inform workforce management strategies.

Problem Statement	
Description	<p>Employee Promotion Prediction Using Machine Learning involves developing a model to forecast the likelihood of employees being promoted within an organization based on various factors such as performance metrics, tenure, skills, and feedback.</p> <p>This project aims to enhance workforce management strategies by identifying high-potential employees deserving of advancement opportunities, thereby fostering employee engagement, retention, and organizational growth.</p>
Impact	<ul style="list-style-type: none"> • Data-driven decision making • Talent Identification and Development • Improved Employee Retention • Enhanced workforce planning • Increased diversity and Inclusion
Proposed Solution	
Approach	Utilizing machine learning techniques to analyze employee data and predict promotion, enhancing decision-making in promotion processes.
Key Features	<p>Implementation of machine learning to build a model for employee promotion prediction</p> <p>The solution can provide real-time analytics and insights, enabling HR managers and business leaders to make informed decisions quickly and efficiently.</p> <p>The solution provides data-driven insights to support promotion decisions, reducing bias and ensuring fairness in the evaluation process</p>

Resource Requirements

Resource Type	Description	Specification/Allocation
Hardware		
Computing Resources	CPU/GPU specifications, number of cores	Intel i5 or i7

Memory	RAM specifications	Minimum 16 GB
Storage	Disk space for data, models, and logs	At least 500GB
Software		
Frameworks	Python frameworks	Flask
Libraries	Additional libraries	scikit-learn, pandas, numpy
Development Environment	IDE, version control	Jupyter Notebook, Git, Spyder
Data		
Data	Source, size, format	Kaggle dataset,