Project Initialization and Planning Phase

Date	15 March 2024
Team ID	740071
Project Title	Work Force retention system
Maximum Marks	3 Marks

Project Proposal (Proposed Solution) report

Employee turnover is a significant challenge for our organization, resulting in increased recruitment and training costs, disruption of operations, and loss of institutional knowledge. To address these issues more effectively, we propose the development and implementation of a Machine Learning (ML)-based Workforce Retention System. This system will leverage data-driven insights to predict employee turnover, identify the root causes, and recommend targeted retention strategies.

Project Overview	
Objective	The objective of the Workforce Retention System is to significantly reduce employee turnover by leveraging machine learning to predict at-risk employees and identify key factors contributing to their potential departure. By understanding these factors, the system aims to develop targeted retention strategies that enhance employee engagement and satisfaction

Scope	The scope of the Workforce Retention System encompasses the entire organization, targeting all departments and job roles with an initial focus on high-turnover areas.

Problem Statement

Description	Addressing the organizations high rate of employee turnover, particularly among its skilled and experienced workforce.
Impact	Implementing a Workforce Retention System, especially one augmented by machine learning, can have profound and far-reaching impacts on an organization reduced Employee Turnover, Cost Savings, Improved Employee Morale and Engagement

Proposed Solution

Approach	To address the existing problems with workforce retention systems, a comprehensive and strategic approach is necessary. Our proposed solution encompasses a system with several key components.
Key Features	Turnover Prediction, Factor Analysis, Dashboard and Reporting Alerts and Notifications, Monitoring, Personalized Action Plans.

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	Jupyter Notebook, Google Colab, Visual studio code
Data		
Data	Source, size, format	Kaggle dataset, 614, csv UCI dataset, 690, csv