Project Proposal

Title: Predicting Employee Attrition at Salifort Motors

Executive Summary

Salifort Motors is facing high employee turnover, leading to increased costs and workplace disruption. This project will develop predictive models to identify key attrition factors and help HR implement proactive retention strategies. The analysis will provide leadership with actionable insights to improve workforce stability and reduce hiring/training costs.

Business Problem & Objectives

Salifort Motors is experiencing an unsustainable level of employee turnover, increasing hiring and training costs while disrupting productivity and workplace morale. A data-driven approach is essential to identifying and mitigating key attrition risks, helping HR implement targeted interventions.

The primary objectives of this project are:

- **Predict employee attrition with high accuracy** to support proactive decision-making.
- **Identify key factors influencing turnover** to help HR implement effective retention strategies.
- **Provide actionable insights to HR** for improving employee satisfaction and engagement.
- **Reduce turnover costs** by optimizing workforce stability and minimizing rehiring expenses.

Stakeholders & Roles

- **HR Team:** Uses insights to develop retention strategies.
- **Leadership Team:** Implements strategic decisions based on findings.
- **Data Team (Myself):** Responsible for data processing, model development, and analysis.

Data Availability & Sources

The dataset consists of employee survey responses collected internally at Salifort Motors. It includes attributes such as department, tenure, number of projects, average monthly hours, and salary level. The dataset will be pre-processed to handle missing values, inconsistencies, and ensure reliability for modelling.

Project Timeline & Milestones

Milestone	Tasks/Stage	Deliverables/Reports	Relevant Stakeholder(s)
1 1 day	Establish structure for project workflow - Plan	PACE Workflow Document: - Project Scope and objectives outline. - Initial project Timeline and milestone chart.	- HR - Leadership - Data Team
2 1 day	Data Exploration and Cleaning Analyse	Data Documentation: - Data Dictionary. Python Asset: - Cleaned and Pre-processed dataset. - Jupyter Notebook detailing full process.	- Data Team
3 1-3 days	Visualization and EDA - Analyse and Construct	Python Asset: - Visualize relationships between variables of interest within the data. Tableau Asset: - Tableau Dashboard summarizing key trends, visualizations, and correlations related to employee turnover.	- Data Team - HR
4 1 day	Logistic Regression Model - Construct	Python Asset: - Jupyter notebook detailing training and evaluation of model.	- Data Team
5 1 day	Decision Tree - Construct	Python Asset: - Jupyter notebook detailing training and evaluation of model. - Feature importance analysis.	- Data Team
6 1 day	Random Forest/XGBoost - Construct	Python Asset: - Jupyter notebook detailing training and evaluation of models. - Feature importance analysis. - Final comparison of models.	- Data Team
7 1 day	Final Business Report with Recommendations - Execute	Executive Report: - Develop the final report and business recommendations for HR and leadership.	- HR - Leadership - Data Team

Final Deliverables

- **Predictive Models, Performance Evaluation, Feature Importance Report** – will help HR identify employees at risk of leaving.
- **Tableau EDA Dashboard** – provides an intuitive way to explore trends.
- **Final Business Report with Recommendations** – summarize key insights and actionable recommendations for retention strategies.

Conclusion

This project aims to enhance Salifort Motors' workforce stability by predicting employee attrition and identifying key drivers of turnover. By leveraging machine learning models, the company can implement proactive retention strategies, leading to cost savings and improved employee engagement.