Project Proposal: Employee Attrition Prediction

Dataset: "IBM HR Analytics Employee Attrition & Performance"

https://ieee-dataport.org/documents/ibm-hr-analytics-employee-attrition-performance

Problem Statement: The project aims to predict attrition among valuable employees within our organization, emphasizing a hypothesis aligned with SMART principles: Can a predictive model, leveraging the Employee Attrition & Performance Dataset, accurately unveil the factors influencing attrition among valuable employees and facilitate targeted interventions to achieve a 15% reduction over the next 12 months?

Context: As attrition among valuable employees rises, the project seeks to leverage the Employee Attrition & Performance Dataset to uncover critical insights. The initiative is framed within the context of predicting attrition and exploring questions such as 'show me a breakdown of distance from home by job role and attrition' or 'compare average monthly income by education and attrition.' This context highlights the significance of the problem and elucidates on how the initiative may provide valuable solutions, with clear commercial implications for the business.

Criteria for Success: The success criteria are precisely defined, aiming for a 15% reduction in attrition among valuable employees over the next 12 months. This reduction serves as a strategic buffer against future disruptions and ensures the stability and retention of key contributors.

Scope of Solution Space: The project's scope is specific to predicting attrition among valuable employees, leveraging the Employee Attrition & Performance Dataset to address complex questions related to distance from home, education, job roles, and other pertinent factors contributing to attrition within this specific employee segment.

Constraints within Solution Space: Foreseeable constraints include potential stakeholder resistance and the necessity for access to accurate and relevant data. Ethical considerations in handling sensitive employee information are acknowledged, and these constraints play a crucial role in shaping the feasibility and effectiveness of the solution.

Stakeholders to Provide Key Insight: Key stakeholders identified for data analysis include the HR Department, Organizational Leadership, Employees, and Data Analysts. Their collaboration is essential to gaining valuable insights from the Employee Attrition &

Performance Dataset, ensuring a comprehensive understanding of the factors influencing employee attrition.

Key Data Source: Employee Attrition & Performance Dataset: Includes variables such as Age, BusinessTravel, DailyRate, Department, DistanceFromHome, Education, EducationField, EmployeeCount, and EmployeeNumber.

Solution Approach: The solution involves developing a predictive model using machine learning techniques to analyze the Employee Attrition & Performance Dataset. The model will uncover patterns and relationships within the data to predict which valuable employees are more likely to leave the organization. The approach includes data exploration, feature engineering, model development, and validation.

Deliverables:

- **Slide Deck:** A comprehensive presentation outlining the problem, data analysis approach, key findings, and recommendations for the HR Department.
- **Project Report:** A detailed report documenting the entire process, from problem formulation to model development and evaluation. The report will include insights gained, challenges faced, and recommendations for future actions.