



Employee Retention Dashboard

Data Set



- Based on **IBM HR Analytics Employee Attrition & Performance**
- **1,470** Employee Records.
- **35** initial features (Numerical & Categorical).

- Primary Target: **Attrition**
- Derived Metric: **Flight_Risk_Score**
- Demographic: Age, MaritalStatus, DistanceFromHome.
- Job Attributes: JobRole, OverTime, BusinessTravel.
- Compensation & Tenure: MonthlyIncome, YearsAtCompany, YearsSinceLastPromotion.
- Employee Sentiment: JobSatisfaction, EnvironmentSatisfaction, WorkLifeBalance (**Ordinal scales 1-4**).

Problem Statement

- Identify which employees are most likely to leave the company.
- Understand the key drivers influencing attrition.

ROI and Business Impact

- Shifting from exit interviews to stay interviews allows organizations to proactively understand employee concerns and motivations, ultimately leading to improved retention rates which reduce the operational cost.
- Targeted retention strategies help save critical knowledge within the organization.
- Which leads to enhance overall business performance.



Machine Learning Approach

- **Random Forest** Classifier trained on IBM HR Analytics data.
- Used **SMOTE Upsampling** to fix the low attrition rate (16%) in training data.
- Recall is **72%** for employees who left.

Dashboard Design

- CAREER GROWTH & MANAGEMENT
- HR OVERVIEW
- EMPLOYEE RISK
- ROOT CAUSE & STRATEGY

Key Findings

Employees more likely to leave are:

- Young (≤ 21 years)
- 1 year or less in the company
- Working overtime
- Earning lower monthly income
- Working in Sales-related roles

Early Career Attrition:

- Highest attrition occurs within first 1–3 years
- Indicates onboarding and engagement gaps

Higher attrition observed in:

- Research & Development
- Sales
- Laboratory and technical roles

- Lower income \rightarrow Higher flight risk score
- Salary increase simulation shows risk reduction
- Lack of stock options increases attrition probability

Thank You!