The Business Problem:

- High employee turnover increases recruitment costs and disrupts productivity.

- Current HR methods are reactive, not proactive.

The Solution:

- A Machine Learning tool to identify "At-Risk" employees before they leave.

- KPI: Reduce unexpected attrition and save replacement costs.

Employee Retention Intelligence System

Reducing Attrition through Predictive Modelling

Presented by: Abdul Rumman | January 2026

The High Cost of Reactive HR

Why we need to predict attrition, not just measure it.

- The Financial Blow: According to Gallup (2019), replacing an employee costs 50% to 200% of their annual salary, depending on role complexity.
- The Blind Spot: Traditional HR relies on Exit Interviews (Reactive). By the time you know something is wrong, the employee is already gone.
- The Goal: Shift from "Damage Control" to "Early Warning" by identifying flight risk before the resignation letter lands.

The Dashboard & The Engine

Employee Retention Intelligence System

System Status: Online | Connected to Local Server

Employee Profile to Assess

	age	dailyrate	distancefromhome	yearsatcompany	department	businesstravel	jobrole
0	30	800	10	5	Sales	Travel_Rarely	Sales Executive

Predict Retention Risk

Prediction Result

HIGH RISK: Employee is likely to LEAVE.

Confidence: 64.00%

- The Tool: A live "Retention Calculator" that translates 7 user inputs into a retention probability (shown: 64% Risk).

- The Engine: Powered by the Correlation Drivers (Right Bottom) and trained on the Imbalanced Distribution (Right Top) to detect rare attrition events.

- The Logic: Uses "Ghost Column" re-indexing to map simple user inputs to complex training data patterns dynamically.