

Executive Summary: Employee Retention Strategy for Salifort Motors

Data-Driven Insights and Predictive Modeling for Employee Attrition

OVERVIEW

The goal of this analysis was to identify the key drivers of employee turnover at Salifort Motors and develop a predictive model to identify at-risk employees. By analyzing data from 15,000 employees, we have identified that **overwork** and **career stagnation** are the primary factors causing our top talent to leave.

PROJECT STATUS

We developed a **Random Forest machine learning model** that can predict whether an employee will leave with **91% accuracy (F1-Score)**.

- **Actionable Intelligence:** Unlike previous metrics, this model does not rely on "satisfaction surveys." It predicts turnover based on objective data: **workload, tenure, and evaluation scores**.
- **Reliability:** The model successfully identifies 9 out of 10 employees who are likely to quit, allowing for proactive intervention.

NEXT STEPS

To improve employee retention we recommend the following four initiatives:

- **Cap Project Loads:** Limit project assignments to a **maximum of 5 per person**.
- **Implement an "Overtime Alert" System:** Flag any employee working more than **175 hours per month**.
- **Revise Promotion Policies:** With a promotion rate of only 2%, high-performing employees feel they have no future at Salifort. We recommend a mid-year promotion cycle for those with high evaluation scores.
- **Target the "4-Year Mark":** Implement retention bonuses or internal "career-pathing" sessions for employees as they hit their 3rd and 4th anniversaries with the company.

KEY INSIGHTS

Our analysis revealed three distinct "risk profiles" for employees leaving the company:

1. **The Burned-Out High Performers:** These employees have high performance evaluations but are assigned **6 or more projects** and work **over 250 hours per month**.
2. **The Stagnant Mid-Careerists:** Employees at the **3–5 year tenure mark** leave at significantly higher rates. This is often linked to a lack of promotions (only 2% of the workforce was promoted in the last 5 years).
3. **The Underutilized:** Employees with only **2 projects** show a spike in attrition, likely due to a lack of engagement or feeling undervalued.

