Predicting Employee Attrition at Salifort Motors

Using Machine Learning to Support HR Decision-Making

❯ ISSUE / PROBLEM

16.6% of employees left the company. HR lacks clarity on **why** and **who is likely to leave**.

Employee Attrition by Department

❯ RESPONSE

Built two models:

- **Logistic Regression:** 83% accuracy, 21% recall for attrition

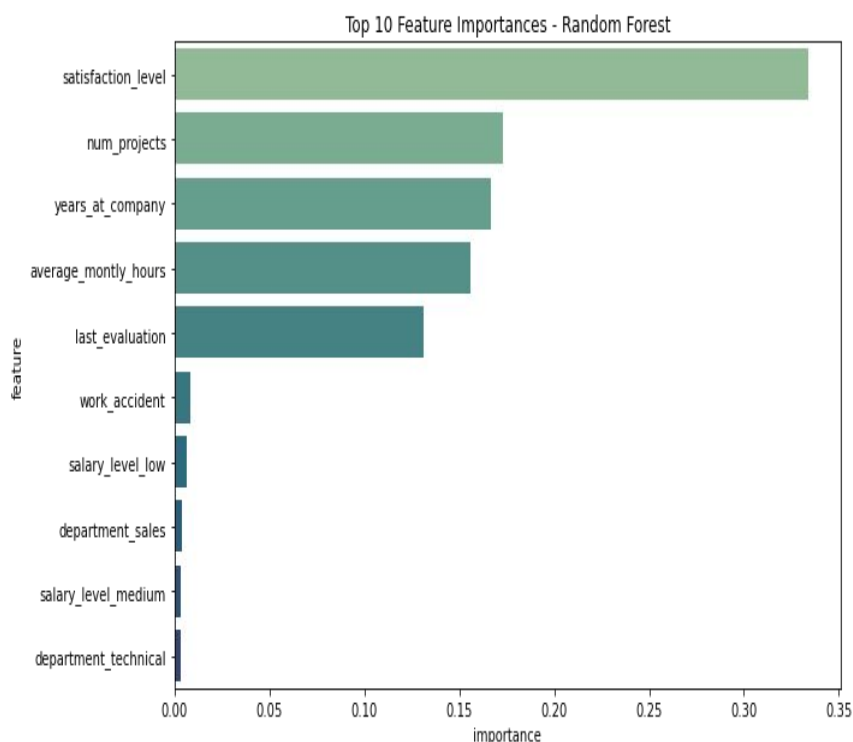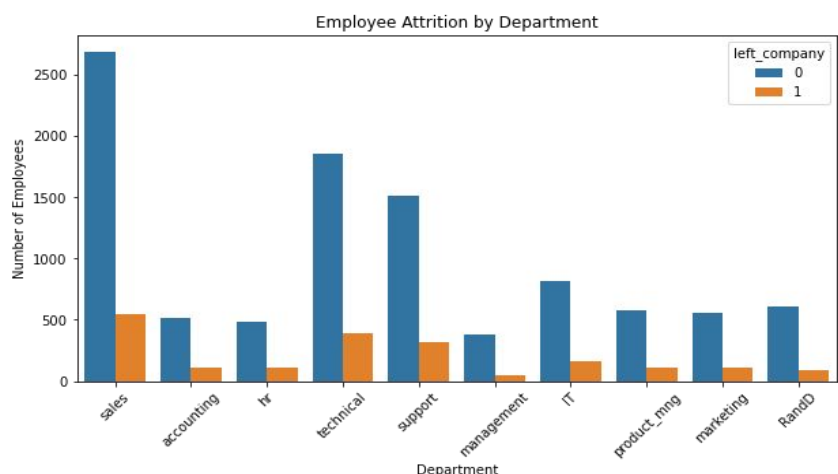- **Random Forest: 99% accuracy**, **92% recall** for attrition

Used 10 features (e.g., satisfaction, hours, promotions)

Top 10 Feature Importances - Random Forest

❯ IMPACT

Random Forest accurately **identifies employees at risk**

Enables **early HR intervention** to reduce attrition and hiring costs

Insights integrated into dashboard-ready model

❯ KEY INSIGHTS

- 🔻 **Satisfaction < 0.45 → 60%+ churn rate**

- 📈 **6+ projects → 55%+ churn rate**

- 💰 **Low salary tier → 60% of employees who left**

- 📊 **Random Forest accuracy → 99%, F1-score: 0.96 (churn class)**