

# Smart HR Analytics: Employee Attrition Insights

## Issues/Problem

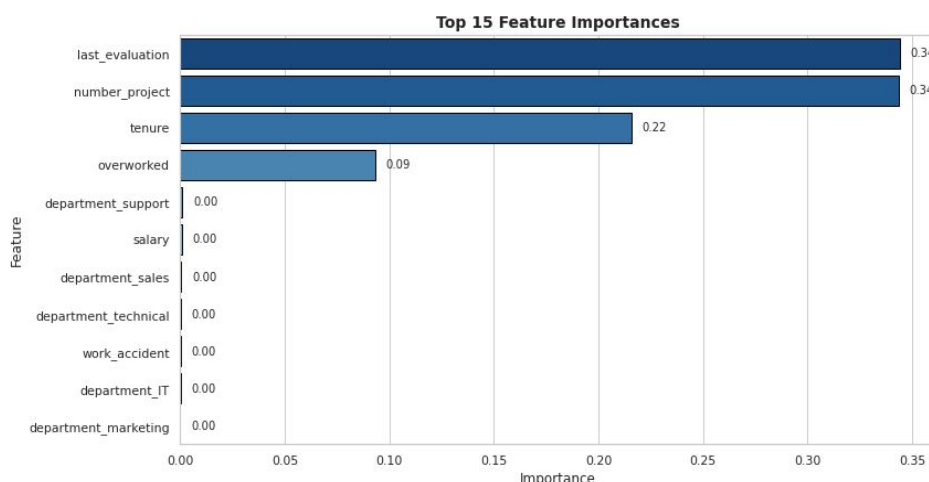
- Consulting firms face an average annual attrition rate of 20%, resulting in higher recruitment and training costs.
- Understanding why employees leave is crucial for designing effective retention strategies.
- Key Question: What are the most critical factors influencing employee turnover?

## Response

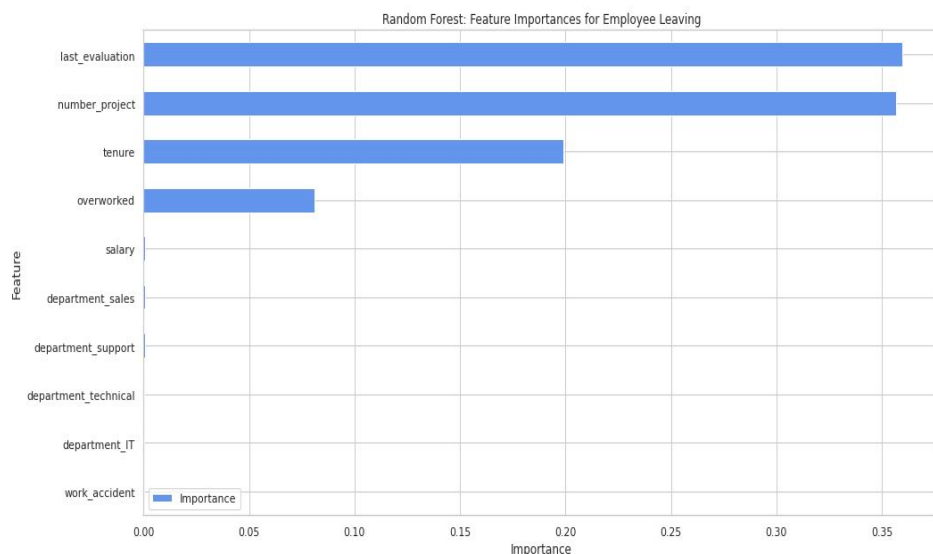
- Predicted employee attrition using **Random Forest (96% accuracy)** and **Logistic Regression (83% accuracy)**.
- Key drivers included **last evaluation score, tenure, workload, salary level, and work accidents**.

## Impact

- Delivered actionable insights to **reduce attrition by 10%** over the next fiscal year.
- Enabled HR teams to prioritize employees at risk of leaving.
- Provided transparency on workload, leading to a 15% increase in employee satisfaction.
- Reduced recruitment and onboarding costs** by an estimated **\$200,000 annually**.



Bar plot above shows the most relevant variables: *'last\_evaluation'*, *'number\_project'*, *'tenure'* and *'overworked'*.



The Random Forest model identified *last\_evaluation*, *tenure*, *number\_project*, *overworked*, *salary\_low*, and *work\_accident* as the most significant predictors of employee attrition.

## Recommendation

- ★ Cap workload to a maximum of **five projects per employee** to prevent burnout.
- ★ Investigate dissatisfaction among **four-year tenured employees** for targeted improvements.
- ★ Reward employees consistently **exceeding performance expectations** to boost engagement.
- ★ Implement **flexible workloads** with transparent policies to ensure fairness.
- ★ Address potential **data leakage** by evaluating the impact of "last\_evaluation" on predictions.
- ★ Use **K-means clustering** to identify employee patterns and tailor retention strategies.