Salifort Motors

Employee Retention Project

ISSUE / PROBLEM

Salifort Motors seeks to improve employee retention and answer the following question:

**What is likely to make an employee leave the company?**

RESPONSE

Since the variable we are seeking to predict is categorical, the team could build either a logistic regression or a tree-based machine learning model.

The random forest model slightly outperforms the decision tree model.

IMPACT

This model predicts the likelihood of an employee leaving and identifies the most influential factors. These insights support HR in making informed decisions to improve employee retention.
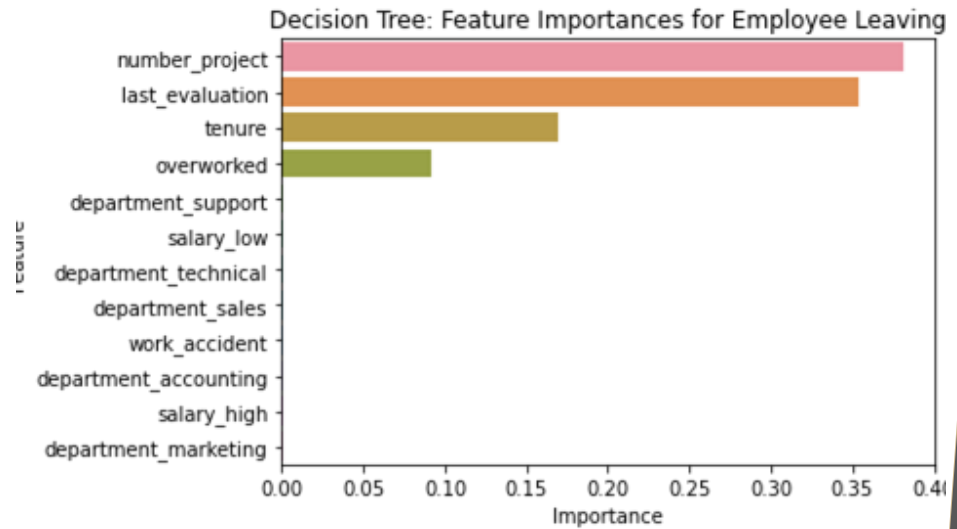
Barplot above shows the most relevant variables: *'last_evaluation'*, *'number_project'*, *'tenure'* and *'overworked'*.
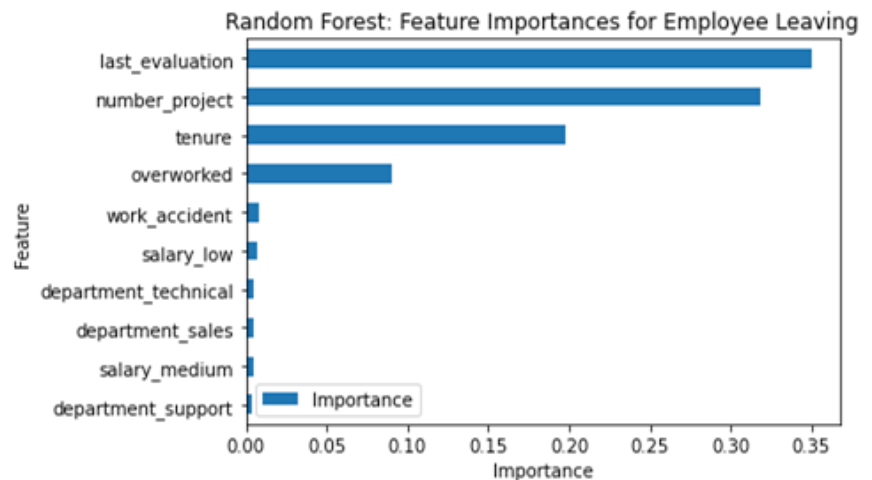
In the random forest model above, `last_evaluation`, `tenure`, `number_project`, `overworked`, `salary_low`, and `work_accident` have the highest importance. These variables are most helpful in predicting the outcome variable, `left`.

INSIGHTS/NEXT STEPS

- Set a clear limit on the number of projects each employee can handle to prevent overload.

- Consider promoting employees with at least four years of tenure or investigate the reasons behind dissatisfaction among this group.

- Establish a transparent policy on overtime: either adequately reward employees for working extra hours or avoid requiring it.

- Ensure that all employees are aware of the company's overtime pay policies and that expectations regarding workload and time off are clearly communicated.

- Organize company-wide and team-level discussions to understand and improve the organizational culture, both generally and within specific contexts.

- Review performance evaluation criteria so that high scores are not exclusively tied to excessive workloads (200+ hours/month), implementing proportional recognition scales.