Salifort Motors

Employee Retention Project

ISSUE / PROBLEM

Salifort Motors is interested in enhancing employee retention and aims to address the following question:

What's likely to make the employee leave the company?

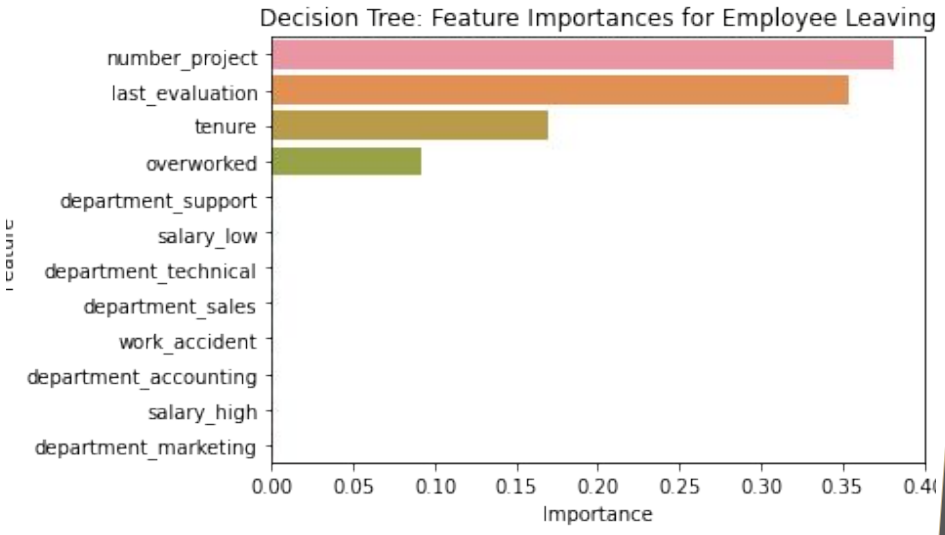
RESPONSE

Given that the variable we aim to predict falls into categorical categories, the team has the option to develop either a logistic regression or a machine learning model based on trees.

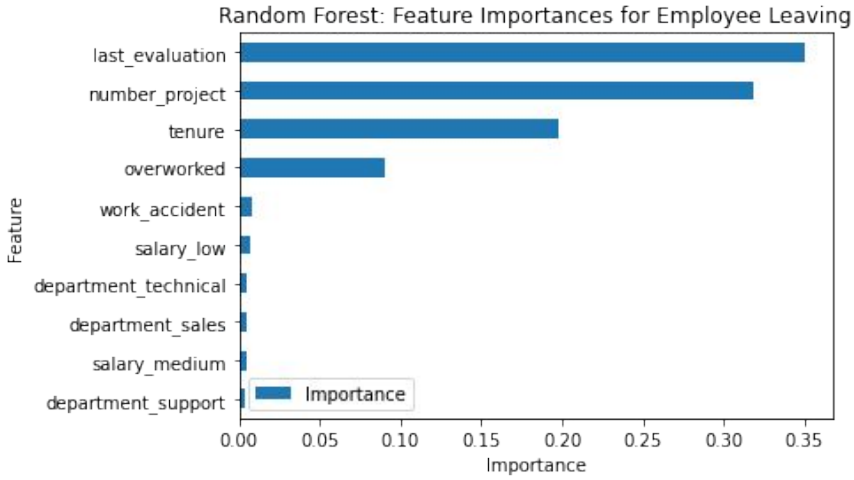
The performance of the random forest model is marginally better than that of the decision tree model.

IMPACT

This model assists in predicting the likelihood of an employee leaving and determining the most significant factors that contribute to their decision. By gaining these insights, the HR department can make informed decisions to enhance 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

- Implement a maximum limit on the number of projects assigned to each employee.
- Consider promoting employees who have been with the company for at least four years, or conduct further investigation about why four-year tenured employees are so dissatisfied.
- Either reward employees for working longer hours, or don't require them to do so.
- If employees aren't familiar with the company's overtime pay policies, inform them about this. If the expectations around workload and time off aren't explicit, make them clear.
- Hold company-wide and within-team discussions to understand and address the company work culture, across the board and in specific contexts.
- High evaluation scores should not be reserved for employees who work 200+ hours per month. Consider a proportionate scale for rewarding employees who contribute more/put in more effort.