Employee Retention Project Summary

ISSUE / PROBLEM

The company seeks to improve employee retention and answer the following question:

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

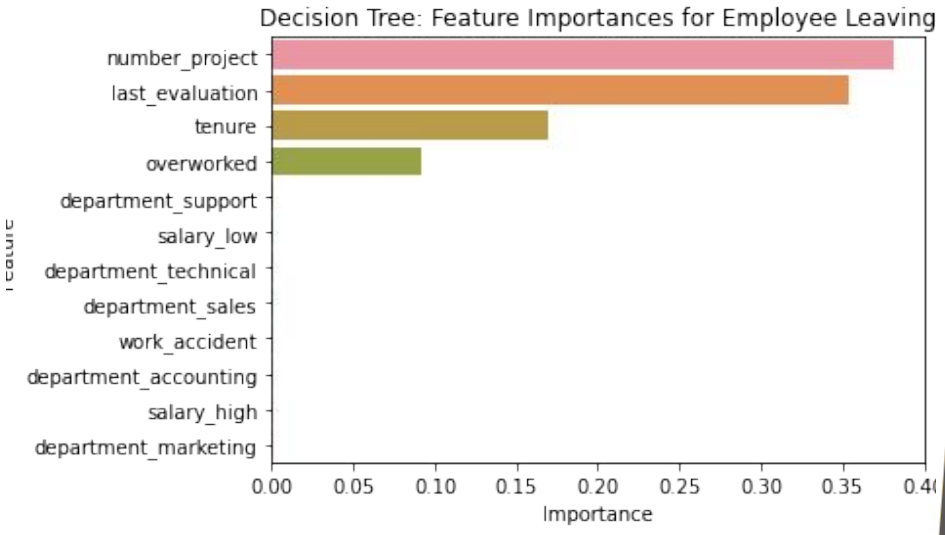
RESPONSE

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.

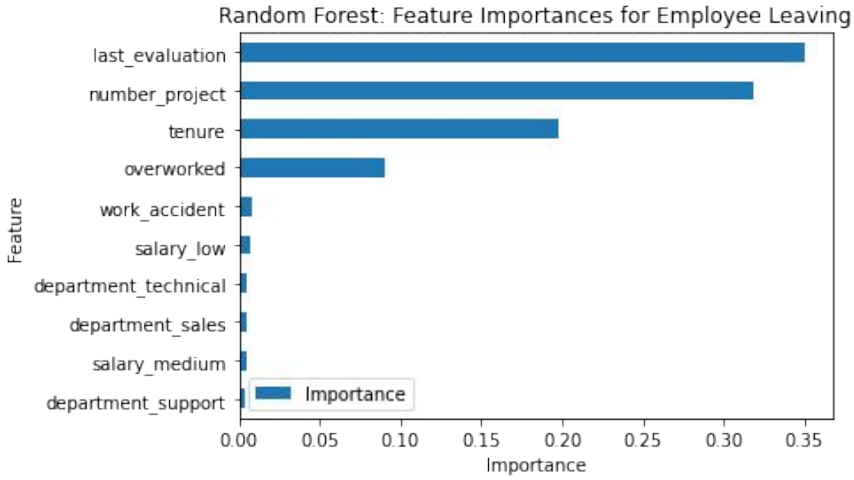
The random forest model slightly outperforms the decision tree model.

IMPACT

This model helps predict whether an employee will leave and identify which factors are most influential. These insights can help HR make 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

- Cap the number of projects that employees can work on.
- 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.
- 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.