Employee Retention Project for Salifort Motors

Issue/problem

- Salifort Motors seeks to improve employee retention and answer the following question:
- **What's likely to make the employee leave the company?**

Response

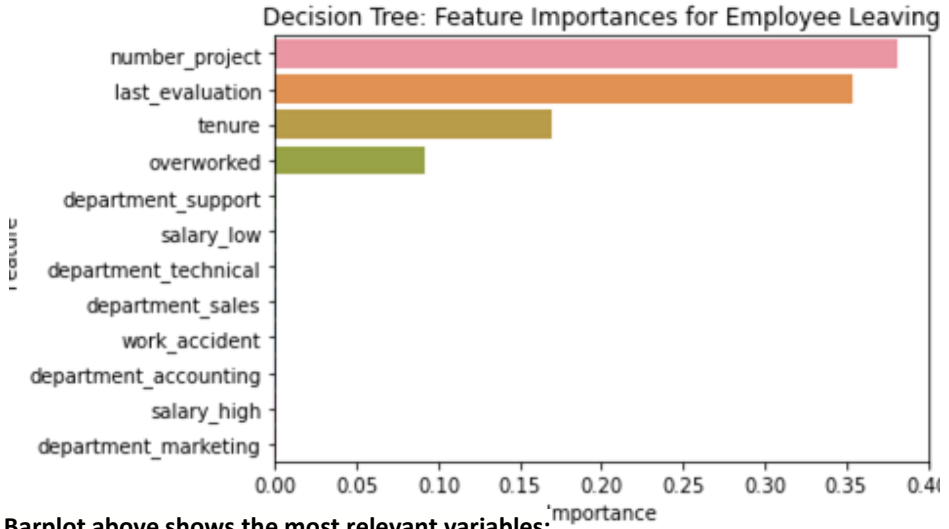
- Since the variable we are seeking to predict is categorical, the team could build either a logistic regression or a tree-based machine learning model.
- The **random forest model** slightly outperforms the decision tree model.

Impact

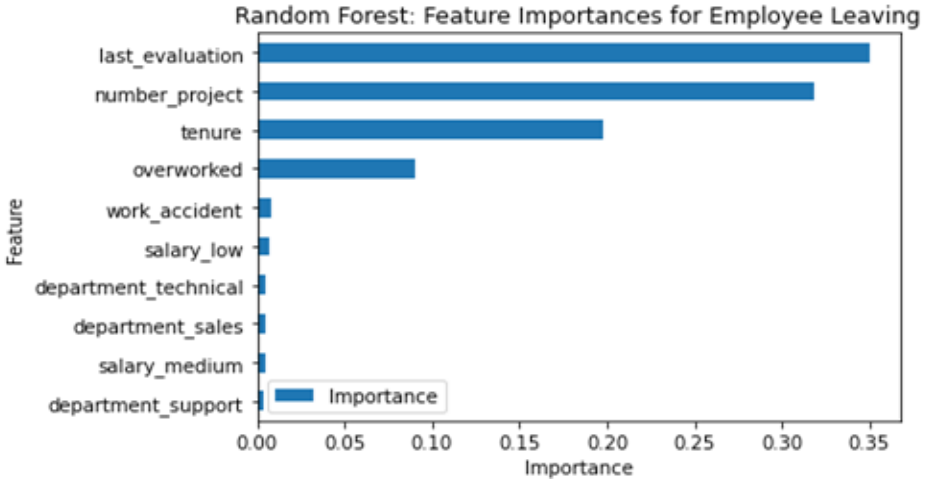
- This model helps predict whether an employee will leave and identify which factors are most influential. These insights can help HR make decisions to improve **employee retention.**

Insights/Next steps

- Cap the **number of projects** that employees can work on.
- Conduct further investigation about why **four-year tenured** employees are so dissatisfied.
- Either reward employees for **working longer hours** or refrain from mandating it, while ensuring clear policies and expectations.
- High evaluation scores shouldn't be limited to employees working over 200 hours per month; consider a **proportional scale** for those who contribute more or put in extra effort.



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`.***