Slifort Motors Project | Machine Learning Results

Prepared for Salifort's Human Resources Department

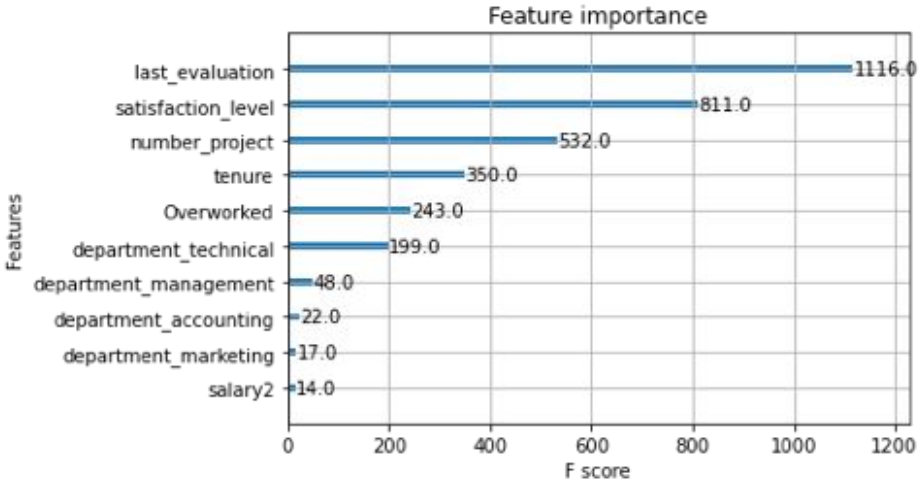
ISSUE / PROBLEM

Salifort Motors currently is having high employee turnover. This causes a financial burden on the company. Due to the fact that Salifort makes big investments in recruiting, training, and upskilling its employees.

RESPONSE

- The HR department at Salifort Motors wants to take some initiatives to improve employee satisfaction levels at the company.
- The HR department surveyed a sample of 15,000 employees to learn more about what might be driving turnover.
- The goal is to build a model that predicts whether or not an employee will leave the company.
- The models built were both Random Forest and Xgboost Model, and a Logistic Regression Model

KEY INSIGHTS



- Out of all the models built, the XGBoost model performed the best
- The model correctly identified ~94% of employees that 'left'. The model overall performed with a f1 score of 93%, a recall score of 91%, a precision score of 96% and an accuracy score of 98%.
- From the plot above, the top five features that help predict if an employee will leave are last evaluation, satisfaction level, number project, tenure, and overworked.

IMPACT

Recommendations:

1. As employee tenure goes up, so should their salary.
2. There needs to be a better scale for evaluations.
3. There should be better management on dividing projects up between employees. If an employee is going to take on more projects and more hours there should be an incentive of higher pay or higher overtime pay.

Next Steps:

1. To acquire a sample from employees that are not in line to possibly being fired.
2. I believe it may be wise to conduct a survey/building a predictive model on each individual department. Maybe looking more into those departments individually can help learn about the treatment of employees.
3. I think having a discussion or taking a survey on company culture would be beneficial. Maybe having questions about employee benefits, work life balance or even work culture would