

Sailfort Motors

Employee Retention Project

PROBLEM

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

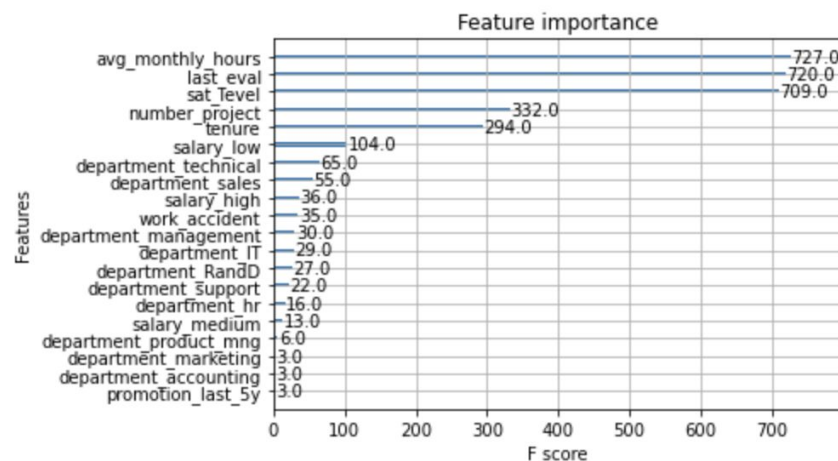
What's likely to make the employee leave the company?

RESPONSE

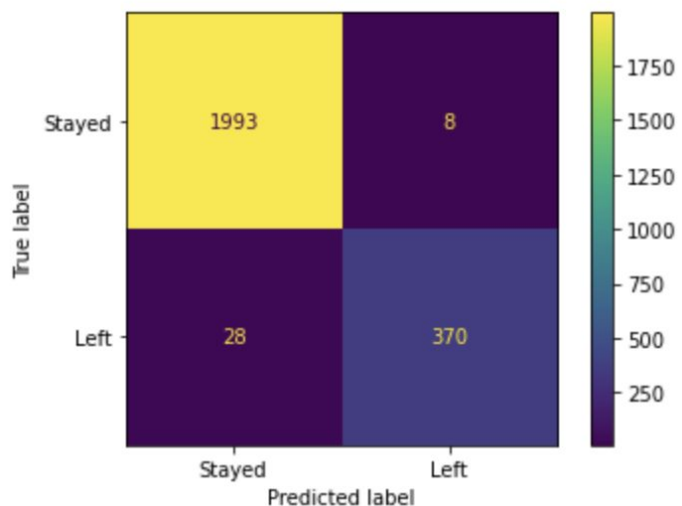
The data analytics team at Sailfort Motors developed a model using XGBoost to help understand which factors could indicate the potential for an employee to leave and predict future employee churn.

IMPACT

The insights into the factors that lead to employee attrition can help the HR team develop a strategy to help improve retention.



The plot above displays the most important features to predicting employee attrition: avg_monthly_hours, last_eval, and satisfaction level.



As shown in the confusion matrix above, the model achieved an F1 score of 0.9536 on the test dataset, which is consistent with the scores obtained on the training and validation datasets. This consistency indicates that the model demonstrates strong performance and generalizes well to unseen data.

KEY INSIGHTS & NEXT STEPS

- The model identified average monthly hours worked, last employee evaluation score, and employee satisfaction score as the top three predictors of employee churn. These metrics should serve as key indicators for the HR team to monitor and address proactively.
- HR should collaborate with management to develop retention plans for high-risk employees, implement workforce planning strategies to ensure adequate project staffing and better understanding of team capacities, and reduce overtime. Additionally, gathering data more frequently can enable proactive monitoring of these key metrics.
- The data analytics team could expand the analysis by reviewing additional historical data for patterns and collecting more detailed workload-related data, such as total annual hours worked or project timelines and expectations.