

# Saliport Motors

## Employee retention

### ISSUE / PROBLEM

Find ways to improve employee retention and determine what's likely to make employee leave Saliport Motors.

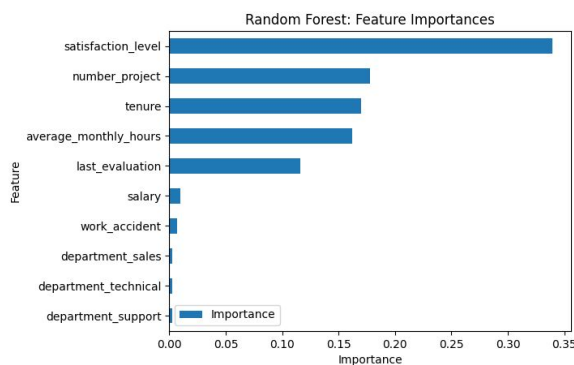
### RESPONSE

Decision Tree, Random Forest and XGBoost classifiers were built.

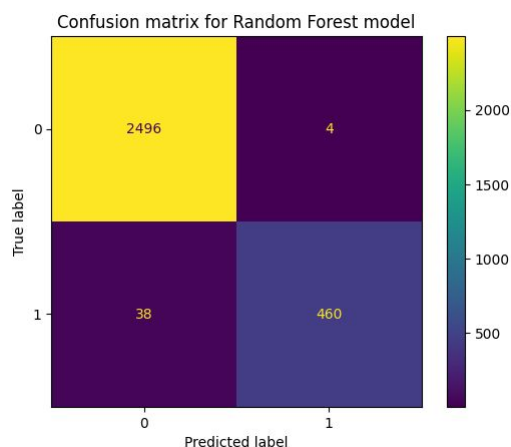
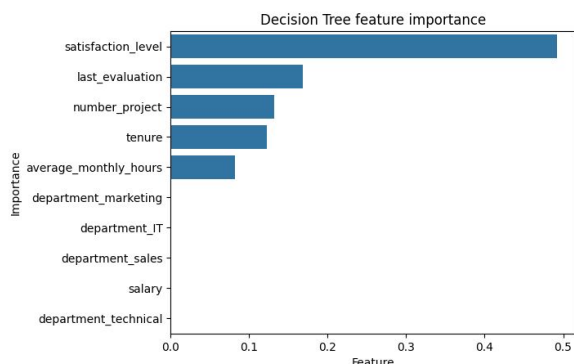
After tuning and cross validation **Random Forest** model turned out to be the most effective on the test data it obtained F1 score of **95.6%**, precision of **99.1%**, recall of **92.4%** and an AUC score of **96.1%**. Overall model accuracy of **98.6%**.

### IMPACT

Developed model predict whether an employee will leave. For each model key predictor features are identified. These insights can help HR make decisions to improve employee retention.



In both models, 'satisfaction\_level', 'last\_evaluation', 'tenure', 'number\_project', and 'average\_monthly\_hours', have the highest importance. These variables are most helpful in predicting the outcome variable, 'left'.



Confusion matrix for trained model performance on test data.

### KEY INSIGHTS

- Set a limit for amount of projects that employees can work . Values in the range of 4-5 can be used for the project cap.
- 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.
- Improve communication about company work culture and overtime pay policies.
- Satisfaction\_level is the most predictive feature, implement a polling system for satisfaction.