Random Forest Assisted Suggestions for Salifort Motors Employee Retention: Plan, Analyze, Construct and Execute

Executive Summary

ISSUE / PROBLEM

Salifort Motors wants to improve employee retention and answer the question:
What's likely to determine employee leave the company?

RESPONSE

Since the outcome variable 'left' is categorical, the team builded both logistic regression and tree-based machine learning models.
The random forest model lightly outperforms the decision tree model. Overall, the random forest is more robust compare to decision tree.

IMPACT

This model assist in prediction of employee's leave and indicates which factors are most influential. These data-driven suggestions can help HR to improve employee retention.

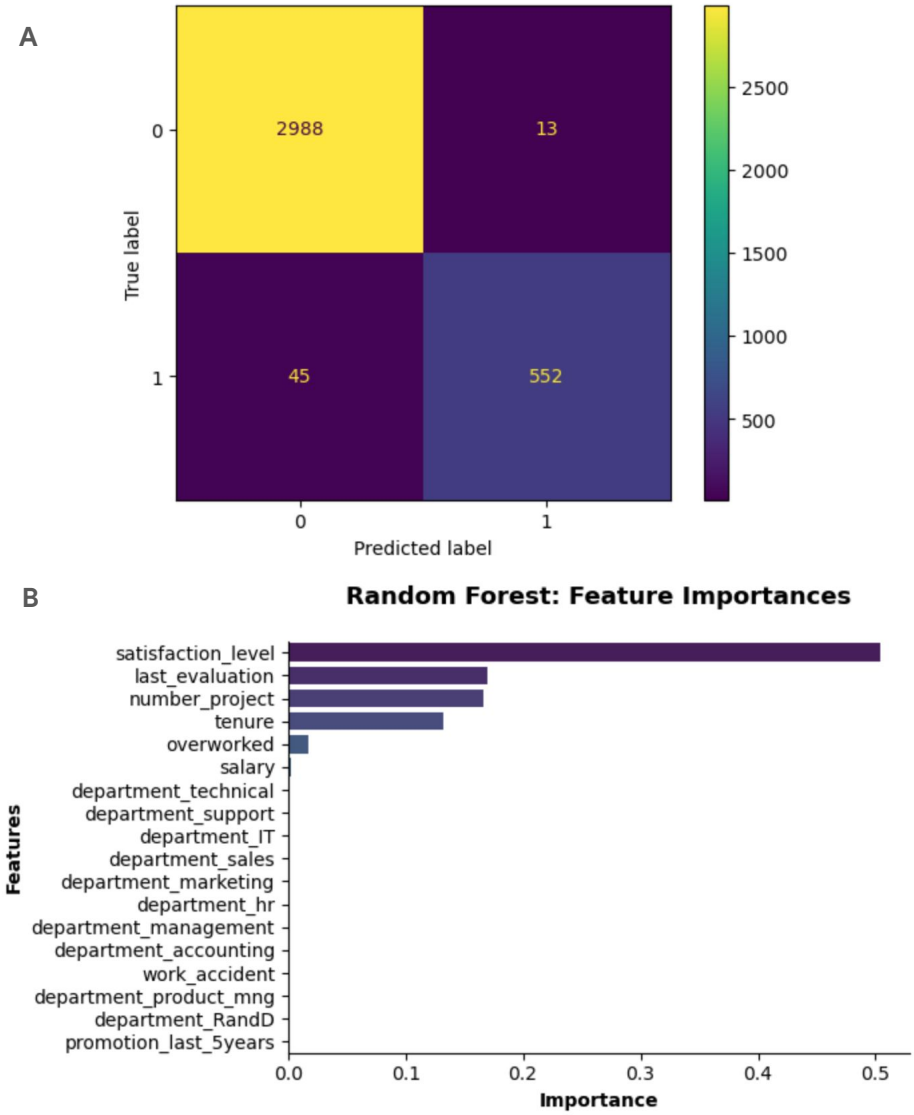

Figure A displays the confusion matrix for final Random Forest model performance on test data. Bar graph in B part illustrates significant variables that are likely to cause employee leave.

INSIGHTS

- Cap the number of projects that employees contributes
- Consider promoting employees who have been working for at least 4 years
- Conduct further analysis on why four-year tenured employees are so dissatisfied
- Either provide compensation to employees for working longer hours, or don't require them to do so
- If employees aren't familiar with the company's overtime pay policies, inform them about
- High evaluation scores should not be restricted to employees who work 200+ h/month
- Improve performance review process