Salifort Motors

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Employee Retention Project

⟩ 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 tree-based machine learning model.
The XGBoost(F1 score = 0.959, accuracy = 0.986) and Tuned Random Forest (F1 score = 0.954, accuracy = 0.985) models slightly outperforms the decision tree model(F1 score = 0.919 , accuracy = 0.9713).

⟩ 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.

Feature importance
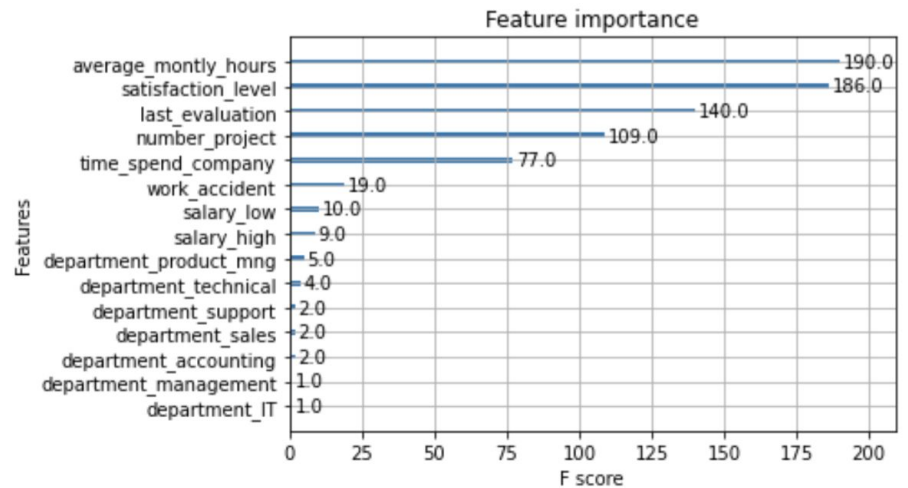
Barplot above shows the most relevant variables according to xgboost model: *average monthly salary , satisfaction level, last_evaluation, number of projects done, time spend in the company and so on.*
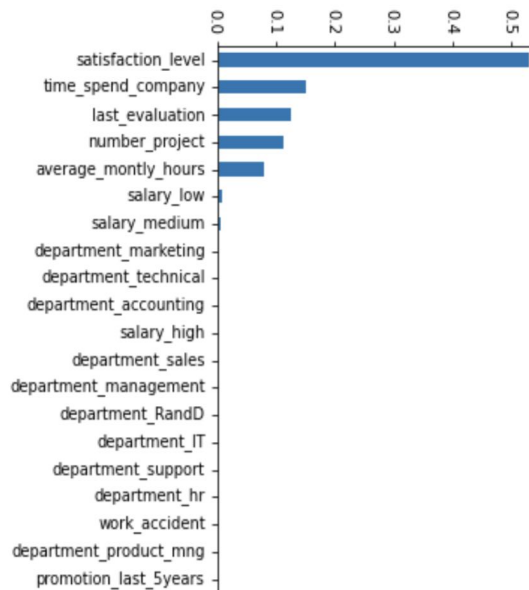
In the simple **DecisionTreeClassifier** on the right side of us, *satisfaction level, time spend in the company, last_evaluation, number of projects done, and average monthly salary* have the highest importance. These variables are most helpful in predicting the outcome variable, `left`.

⟩ INSIGHTS/NEXT STEPS

- Cap the number of projects that employees can work on.
- 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.
- Establish open channels for anonymous employee feedback to encourage honest communication and address concerns effectively.
- Implement recognition programs to acknowledge employee contributions publicly, boosting morale and motivation.
- Offer flexible work arrangements and career development opportunities to support work-life balance and career growth within the organization.
- Prioritize employee well-being through wellness initiatives and regular check-ins to assess job satisfaction.