Executive Summary: Employee Attrition Analysis at Salifort Motors

Project Goal:

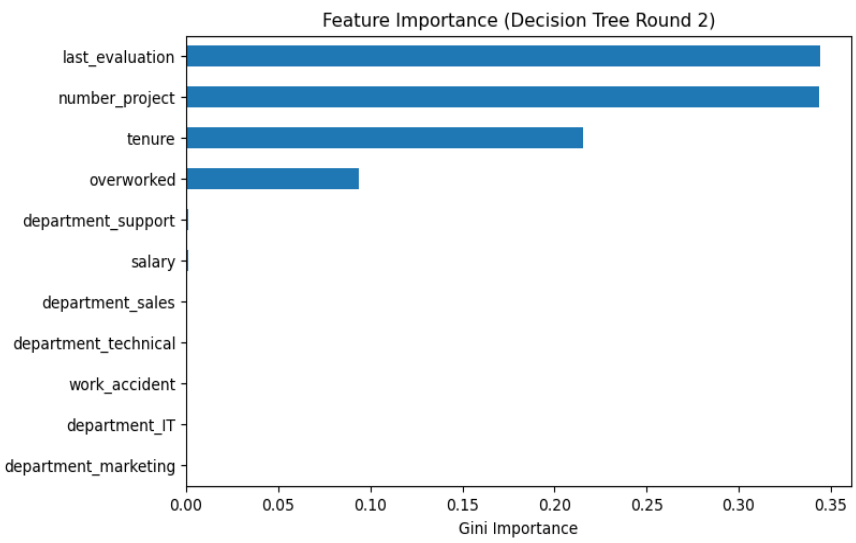
Identify the most influential factors contributing to employee attrition at Salifort Motors and provide data-informed recommendations to improve retention.

Approach:

- Analyzed 14,999 employee records
- Performed EDA and created new features (e.g., overworked)
- Built and evaluated Decision Tree and Random Forest models
- Compared model performance and feature importance

Results:

- Random Forest (Round 2) performed best
- High importance: last_evaluation, number_project, tenure, overworked
- Strong performance across AUC, precision, and recall



Insights & Recommendations:

- Limit simultaneous project assignments
- Recognize and reward tenure fairly
- Clarify expectations on workload and overtime
- Promote a healthy and transparent work culture

Next Steps

- Validate last_evaluation to ensure it doesn't introduce data leakage
- Test model performance without last_evaluation and satisfaction_level to improve generalizability
- Explore alternative modeling goals, such as predicting employee performance or engagement
- Apply clustering techniques (e.g., K-means) to discover employee groups and refine retention strategies

Final Thoughts

This project demonstrates how machine learning and data analysis can provide actionable insights to reduce employee turnover. By identifying key attrition drivers, Salifort Motors can make informed decisions to support long-term workforce stability.

Let's Connect!

Thank you for reviewing this work!
Feel free to visit my GitHub Portfolio or connect on LinkedIn.
I'm always growing as a data analyst and open to feedback!