Employee Attrition Prediction

Introduction

Losing valuable employees, or employee attrition, is very costly for any organization. Apart from impacting productivity and morale, recruiting, training, and onboarding new employees is much more expensive. Most of the time, HR departments are handling this challenge by spending a lot of time and resources on employee retention efforts.

By using the power of ML, we can collaborate to build a predictive model to predict employees who are at risk of leaving. This approach will give enough time to the HR teams to understand the root causes leading to attrition and implement certain retention strategies.

Problem statement

Despite large efforts in almost every organization by the HR departments, predicting employee attrition is still not an easy task for most of them. The traditional methods normally involve intuition and anecdotal evidence; so, in this project, we will present a data-driven approach using machine learning to determine important factors for employee attrition and predict employees who eventually will leave the organization. If the root causes of attrition are understood, organizations can implement focused retention strategies to minimize negative impacts on productivity and morale.

Goals

1. **Predict Employee Attrition:** Build a model that accurately predicts which employees are at risk of leaving the organization
2. **Inform Data-Driven Decision Making:** Provide actionable insights to HR teams to make informed decisions about retention strategies.
3. **Enhance Organizational Performance:** Ultimately, reduce employee turnover and improve overall organizational performance by fostering a positive work environment and increasing employee satisfaction.
4. **Optimize Resource Allocation:** Allocate resources effectively in targeting high-risk employees and offering retention initiatives.
5. **Key Attrition Drivers Identification:** Pinpoint the root causes of employee turnover, like job dissatisfaction, recognition, or poor management.

Related Work

1. https://www.researchgate.net/publication/326029536_Employee_Attrition_Prediction
2. https://www.researchgate.net/publication/354703174_Understanding_Employee_Attrition_Using_Machine_Learning_Techniques
3. https://www.researchgate.net/publication/308043155_Prediction_of_Employee_Turnover_in_Organizations_using_Machine_Learning_Algorithms
4. https://www.mdpi.com/2076-3417/12/13/6424
5. https://www.sciencedirect.com/science/article/abs/pii/S095741742202382X