HR Analytics: Case Study

Sometimes companies experience high rates of employee attrition when a significant number of employees leave the company within a period of employment. In such cases, the main concern of the HR department is the negative impact of attrition on the company's productivity.

Here is a dataset containing information about the company's employees. Below are all the features in the dataset:

1. Age: The age of the employee;
2. Attrition: Whether the employee has left the company or not;
3. BusinessTravel: The frequency of business travel;
4. DailyRate: The employee's daily rate of pay;
5. Department: The department in which the employee works;
6. DistanceFromHome: The distance between the employee's home and workplace;
7. Education: The highest level of education attained by the employee;
8. EducationField: The field in which the employee's education is focused;
9. EmployeeCount: A count of the employees in the company;
10. EmployeeNumber: A unique identifier for each employee;
11. EnvironmentSatisfaction: The employee's level of satisfaction with their work environment;
12. Gender: The employee's gender;
13. HourlyRate: The employee's hourly rate of pay;
14. JobInvolvement: The employee's level of involvement in their job;
15. JobLevel: The level of the employee's job within the company;
16. JobRole: The employee's job role;
17. JobSatisfaction: The employee's level of satisfaction with their job;
18. MaritalStatus: The employee's marital status;
19. MonthlyIncome: The employee's monthly income;
20. MonthlyRate: The employee's monthly rate of pay;
21. NumCompaniesWorked: The number of companies the employee has worked for in the past;
22. Over18: Whether the employee is over 18 years old or not;
23. OverTime: Whether the employee works overtime or not;
24. PercentSalaryHike: The percentage increase in the employee's salary from the previous year;
25. PerformanceRating: The employee's performance rating;
26. RelationshipSatisfaction: The employee's level of satisfaction with their relationships at work;

27. StandardHours: The standard number of working hours per day;
28. StockOptionLevel: The employee's stock option level;
29. TotalWorkingYears: The employee's total number of years working;
30. TrainingTimeLastYear: The number of hours the employee spent on training last year;
31. WorkLifeBalance: The employee's level of balance between work and personal life;
32. YearsAtCompany: The number of years the employee has been working for the company;
33. YearsInCurrentRole: Number of years in the current role;
34. YearsSinceLastPromotion: Number of years since last promotion;
35. YearsWithCurrManager: Number of years with the current manager;

Use this data to analyze the relationship between the characteristics of employees and their attrition status to develop a predictive model that can identify which employees are most likely to leave the company.