Uche Samuel Madumere

Predictive Analytics

using

Supervised Machine Learning

Get Best Model to predicting employee attrition rate.

FULL STACK DATA SCIENTIST

My Name:

Uche Samuel Madumere

A Creative Entrepreneur with a passion for innovation and problem-solving. With nearly half a decade of experience in UI/UX design, I've honed my skills in creating intuitive and visually appealing user experiences. Additionally, I bring expertise in data science and machine learning, allowing me to uncover actionable insights and drive informed decision-making.

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PROBLEM OVERVIEW

Employee Attrition is a HR Concept that refers to the inferences generated by HR when they try to explain reasons for events, the behavior of employees, and their own behavior. Attributions may be internal (dispositional), based on something within a person, or external (situational), based on something outside a person. In other words it helps HR understand the personality of an employee, hence how likely the employee may respond to certain stimuli or event.

In this guide, we will attempt to uncover the factors that can determine employee attribution. We will then build a predictive model that will be capable of classifying employed attribution.

Objectives

- Analyze the data to determine the driving factors for employee attribution, and build a predictive model that will be able to predict whether or not an employee will attribute (this is a classic classification problem)

- In the Second scenario, the same company XYZ desires a predictive model that can accurately predict the salary of an employee based of the features from the data (this is a classical regression problem)

Task

Perform some predictive Analytics on the data set.

Regression and Classification (Supervised ML techniques) to solve our objectives

Data Dictionary

1) Age
2) Attrition
3) BusinessTravel
4) DailyRate
5) Department
6) HourlyRate
7)TrainingTimesLastYear
8) WorkLifeBalance
9) YearsAtCompany
10) YearsInCurrentRole
11) Years SinceLastPromotion
12)YearsWithCurrManager
13) DistanceFromHome
14) Education
15) EducationField
16) EmployeeCount
17) EmployeeNumber
18) EnvironmentSatisfactionGender
19) JobInvolvement
20) JobLevel
21) JobRole
22) JobSatisfaction
23) MaritalStatus
24) MonthlyIncome
25) MonthlyRate
26) NumCompaniesWorked
27) Over18
28) OverTime PercentSalaryHike
29) PerformanceRating
30) RelationshipSatisfaction
31)StandardHours StockOptionLevel
32) TotalWorkingYears

To obtain the full data description, please visit
Data Source: https://www.kaggle.com/datasets/rohitsahoo/employee

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The End

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