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DSC530-T302 Data Exploration and Analysis

Week 12 Paper

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**Outcome of your EDA:**

In my analysis, I found out that these factors highly influence the attrition rate of employees. Attrition is a problem that impacts all businesses, irrespective of geography, industry, and size of the company. Employee attrition leads to significant costs for a business, including the cost of business disruption, hiring new staff, and training new staff. As such, there is great business interest in understanding the drivers of and minimizing staff attrition.

* MonthlyIncome,
* TotalWorkingYears,
* DailyRate,
* DistanceFromHome,
* HourlyRate,
* EmployeeNumber,
* MonthlyRate,
* YearsWithCurrManager,
* YearsInCurrentRole,
* OverTime\_Yes,
* StockOptionLevel,
* YearsSinceLastPromotion,
* PercentSalaryHike,
* NumCompaniesWorked,
* EnvironmentSatisfaction,
* RelationshipSatisfaction

**Summary of the dataset:**

**Dataset Structure:** 1470 observations (rows), 35 features (variables)

Missing Data: Luckily for us, there is no missing data! this will make it easier to work with the dataset.

**Data Type:** We only have two datatypes in this dataset: factors and integers

**Label**: Attrition is the label in our dataset and we would like to find out why employees are leaving the organization!

**Imbalanced dataset:** 1237 (84% of cases) employees did not leave the organization while 237 (16% of cases) did leave the organization making our dataset to be considered imbalanced since more people stay in the organization than they actually leave

* Age by Gender: The average age of females is 37.33 and for males is 36.65, and both distributions are similar.
* Job Satisfaction by Gender: Job satisfaction levels are practically the same for individuals who didn't leave the organization. However, for people who left the organization, females had a lower satisfaction level than males.
* Salaries: The average salaries for both genders are practically the same, with males having an average of 6380.51 and females 6686.57
* Departments: There are a higher number of males in the three departments. However, females are more predominant in the Research and Development department.

**What do you feel was missed during the analysis?**

Since it is fictional data, the data does not represent natural word factors. It is also for one company and not considered any other company cannot generalize the solution to attrition.

**Were there any variables you felt could have helped in the analysis?**

I think if there is a city or location they are working could have been helpful.

**Were there any assumptions made you felt were incorrect?**

I feel that Monthly income is a good indicator for determining attrition and it is true.

**What challenges did you face, and what did you not fully understand?**

I didn’t clearly understand what makes employees stay in the current company. There are lot of factors that employee considers before moving to a different company. The income of employee has the highest priority for employee who wants to stay in the present company.