**DSCI 5260- Business Process Analytics**

**Group-06**

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**"Optimizing Business Resilience: An Attrition Analytics Approach”**

**Objective:**

* The main objectives of the project are as follows:

1. Understand the factors influencing employee attrition.
2. Developing a Salary Hike Prediction model for employee retainment
3. Understand the factors effecting WorkLife balance of the employee

This research would provide valuable insights and recommendations for organizations looking to improve their ability to handle challenges and disruptions by using analytics as part of their HR and workforce management strategies.

* Milestones & Due date:

Problem statement, objectives & Research question -September 16th

Literature Review- October 2nd

Methods and research design- October 16th

Data Analysis- November 13th

Discussion- November 24th

Final Remarks and Conclusion- December 1st

* Dataset: [DSCI 5360-Attrition analysis](https://myunt-my.sharepoint.com/:x:/r/personal/sriharshabuddha_my_unt_edu/Documents/Microsoft%20Teams%20Chat%20Files/DSCI5260-Attrition%20Analysis.csv?d=wba15764a7bef4d22bdd5cdb346bbb858&csf=1&web=1&e=EEv1rH&nav=MTVfezAwMDAwMDAwLTAwMDEtMDAwMC0wMDAwLTAwMDAwMDAwMDAwMH0)

**Description of the data:**

|  |  |
| --- | --- |
| Column | Description |
| Age | Age of the Employee |
| Attrition | Refers to the employee leaving organization |
| BusinessTravel | Frequency for business travel |
| DailyRate | Rate per monthly working days |
| Department | Department in which employee is working |
| DistanceFromHome | Distance from office to home |
| Education | Level of education |
| EducationField | Field of study/Course |
| EmployeeCount | Refers to the no. of employees |
| EmployeeNumber | Sequence of employees |
| EnvironmentSatisfaction | Scale of Satisfaction based on work environment |
| Gender | Gender of employee |
| HourlyRate | Pay per hour for employee |
| JobLevel | Level of Employee in company on scale of 1-5 |
| JobRole | Job role of employee |
| JobSatisfaction | Scale of satisfaction by employee in department |
| MaritalStatus | Marital status of employee |
| MonthlyIncome | Income of employee in department |
| MonthlyRate | Monthly Salary of employees |
| NumComapaniesWorked | No. of companies of employee previously worked |
| Over18 | If employee is above 18 years? |
| OverTime | If employee works over time? |
| PercentSalaryhike | Percentage of hike upon time period |
| PerformanceRating | Scale of rating employee from1-5 |
| RelationshipSatisfaction | If employee is satisfied upon relationship in company, upon scale of 1-5 |
| StandardHours | Standard Hours of work in company by an employee |
| StockOptionLevel | Scale of stock option level from 0-3 |
| TotalWorkingYears | Employees total working years in present company |
| TrainingTimesLastYear | No. Of times employee is trained in present company |
| WorkLifeBalance | Work life balance of employee, on scale of 1-4 |
| YearsAtCompany | Years worked at current company |
| YearsInCurrentRole | Number of years in current role |
| YearsSinceLastPromoted | Years since last promotion |
| YearsWithCurrManager | Number of years with the current manager |

This dataset consists of 35 columns and 1470 records. A few variables are namely employee demographics, Employment history, performance metrics, Job satisfaction, their role, income, and job level. It also includes WorkLife balance, number of years working in the current company and current role.

* Research Questions:
* Problem Statement 1:

Identifying the relationship between employees' salary hike and the number of years in their current employment, with respect to their existing role, is one of our main problems. The key issue is whether long-term and highly- leveled employees of the company received larger pay hikes than people who have only recently started working in the company.

* Research question 1:

What is the relation between Salary hike of an employee, number of years in current employment and current role? Is this greater than a person who joined recently? Can we predict what salary hike is to be offered in order to retain an employee?

* Problem Statement 2:

If the work life balance on a scale of 4 is 3 or above, then this is an important factor for reducing the retention rates and increase the overall performance of the organization.

* Research question 2:

Is the WorkLife balance higher considering overtime and monthly income?