**Assignment - 1**

A company works with number of employees, all the works are dependents on the employees. Even if one of the employees resign the job immediately then assigned work will be not finished at the time, so delivery of the project to the clients will be delayed. Company planned to make solution for this, they want to know which employee may resign next. If they know previously, they can arrange alternative to avoid such problem. As an AI Engineer you must give Solution to this.

1. A) How will you achieve this in AI?
2. B) Find out the 3 -Stage of Problem Identification
3. C) Name the project
4. D) Create the dummy Dataset.

**Answers**

1. How will you achieve this in AI?

Based on the data given, if the Policy violation is greater than 3, then resignation is confirmed by the employee. When the employee is not shown much in the work, their proactiveness rating is low. They tend to violate the policies more than the threshold level. Their resignation was confirmed after that. Hence the input taken is policy violation and the resignation status is taken as Y. Based on that we can find who will be next employee who is bound to resign.

Find out the 3 -Stage of Problem Identification

* 1. Domain selection: This falls under Machine learning
  2. Categorization of learning: This comes under supervised learning
  3. Based on categorization: This comes under regression

1. Name the project
   1. Project name would be Employee Attrition prediction
2. Create the dummy data set

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Employee Attrition predction** | | | | | | | | | | |
| **Employee #** | **Employee Name** | **Age** | **Gender** | **Department** | **Tenure** | **Salary in $** | **Performance metrics** | **Proctiveness** | **Policy violations** | **Resignation** |
| 1 | Charlie Davis | 37 | Female | Engineering | 36 | 84,443.34 | 4.57 | 2.75 | 1 | N |
| 2 | Alice Johnson | 60 | Female | Sales | 2 | 116,717.65 | 2.91 | 4.88 | 3 | N |
| 3 | Brett Simson | 59 | Male | HR | 25 | 93,155.55 | 3.98 | 1.32 | 2 | N |
| 4 | Jane Smith | 29 | Female | Marketing | 5 | 31,234.12 | 4.12 | 3.45 | 0 | N |
| 5 | John Doe | 22 | Male | Finance | 1 | 30,000.00 | 3.67 | 4.23 | 0 | N |
| 6 | Bob Brown | 45 | Male | Engineering | 18 | 75,432.89 | 4.75 | 3.89 | 2 | N |
| 7 | Sandra Fawcett | 50 | Female | Sales | 40 | 85,161.33 | 3.53 | 1.73 | 1 | N |
| 8 | Linda Johnson | 37 | Female | Engineering | 14 | 115,724.32 | 2.52 | 2.07 | 3 | N |
| 9 | Smitha David | 45 | Female | Finance | 9 | 74,315.70 | 2.34 | 2.2 | 3 | N |
| 10 | Matt Johnson | 41 | Male | Engineering | 22 | 67,766.80 | 2.31 | 2.3 | 3 | N |
| 11 | Steph Andrews | 50 | Female | Sales | 40 | 85,161.33 | 3.53 | 1.73 | 1 | N |
| 12 | Alice Johnson | 37 | Male | Engineering | 14 | 115,724.32 | 2.52 | 2.07 | 5 | Y |
| 13 | Kate Noblet | 45 | Female | Finance | 9 | 74,315.70 | 2.34 | 1.5 | 4 | Y |
| 14 | David Donald | 41 | Male | Engineering | 22 | 67,766.80 | 2.31 | 2.3 | 4 | Y |
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| **Reasons** |  |  |  |  |  |  |  |  |  |  |
|  | Proactiveness rate is low | | |  |  |  |  |  |  |  |
|  | Performance metrics is low | | |  |  |  |  |  |  |  |
|  | Policy violations is more | |  |  |  |  |  |  |  |  |