**Machine Learning Assignment:**

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 not 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 this month or next**. If they know in advance, they can arrange alternative to avoid such a problem. As an Engineer you must give a solution for this.

* How will you achieve this in AI?
* Find out the 3 -Stage of Problem Identification
* Name the Project
* Create Dummy Data Set

**Problem Statement:**

To complete the work successfully, predict the employees who may resign in advance and arrange alternative to replace the employees who are leaving.

**a)How will you achieve this in AI**

Predict the existing employees based on the data set (Input) and create a output to classify the employees who may leave the company by clustering (Example: Likely to leave, Most likely to leave, May not leave)

**b)The 3 -Stage of Problem Identification**

***Stage-1 Domain Selection***

Machine Learning or Deep Learning

***Stage-2 Learning Selection***

Semi supervised Learning

***Stage -3 Supervised- Regression and Classification***

Classification (Example: Likely to leave, Most likely to leave, May not leave)

**c) Name the Project**

Employee Replacement Plan

**d)Dummy Data Set**

**Input Columns**

1. Emp.Id
2. Age:
3. Sex:
4. Date of hire: (This is to identify the number of years service)
5. Date of Leaving: (This will be blank for employees who are with the company)
6. Skill Set/Qualification:
7. Last Increment/Bonus Percent:
8. Last Increment/Bonus Date:
9. Last Promotion Date:
10. Last Performance Review: Positive or Negative
11. Reason for Leaving:

**Output:** Likely to leave, Most Likely to Leave, May not Leave

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Emp. Id | Age | Sex | Date of Hire | | Skill Set/ Qualification | Date of Leaving | Last Increments /Bonus | Last Increment /Bonus Date | Last Promotion Date | Reason for leaving |
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Note: This is just a sample data and we can keep adding more columns