**Hope Artificial Intelligence**

**Scenario Based Learning**

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.

A) How will you achieve this in AI?

B) Find out the 3 -Stage of Problem Identification

C) Name the project

D) Create the dummy Dataset

A) How will you achieve this in AI?

* We need to predict whether an employee may resign based on the company's database history.
* The key variables are Age, Number of Experiences, Department, Position, Years of Experience in the Current Company, History of Resignation, Promotions, and Salary.

**Call to Action:**

1. If an employee has resigned from previous jobs more than three times, they may resign again in a short period.
2. If an employee has zero promotions and low job satisfaction (0 to 3) despite working in the same company for many years, they may resign.
3. If the reason for resignation is health issues or relocation, the employee is likely to resign.
4. Employees who receive promotions, have high job satisfaction (4 to 5), and earn a good salary are less members to resign

B) Find out the 3 -Stage of Problem Identification

* The inputs are given in numerical format, such as **employee’s age, salary, years of experience, and education**. Therefore, we can choose either Machine Learning or Deep Learning.
* Since both input and output are well-defined, and the requirement is clear, this problem falls under **Supervised Learning – Classification.**

Key Aspects:

1. Input and Output:

* Example: Employees of a certain age and experience level may earn a specific salary and may or may not resign.

1. Requirement:

* We need to classify whether employees will resign or not based on historical data.

c) Name of the project: **Employee Resign Prediction**

D) Create the dummy Dataset

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Age | Dep | Salary | NO.OF exp | Pos ition | Rating-perfo | Current company | Hist ory resig | Satisf action | Prom otion | Reason resignation | resigned |
| 37 | Finance | 105200 | 9 | Mid | 2 | 5 | 2 | 2 | 2 | Career growth | resigned |
| 56 | Sales | 100987 | 21 | Senior | 4 | 18 | 1 | 4 | 1 | Na | Not resigned |
| 49 | HR | 50000 | 19 | junior | 3 | 17 | 1 | 4 | 0 | Na | Not resigned |
| 28 | Engineer | 60000 | 5 | Mmid | 4 | 2 | 3 | 3 | 1 | Salary | Resigned |
| 31 | Testing | 75000 | 9 | Senior | 4 | 8 | 1 | 4 | 1 | Health issue | resigned |