**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?**

To predict which employee may resign next, we can develop an Employee Attrition. The goal is to use **historical employee data** to identify patterns and predict the likelihood of an employee leaving the company.

Steps to achieve this:

1. **Data Collection**: Collect historical employee data, including personal details, work performance, satisfaction, attendance, compensation, promotions, etc.
2. **Feature Engineering**: Identify and preprocess relevant features that influence attrition (e.g., low job satisfaction, lack of career growth, long working hours).

**B) Find out the 3 -Stage of Problem Identification**

stage 1 : Machine Learning

stage 2 : Supervised

stage 3: Classification

**C) Name the project.**

Employee Attrition Prediction System

**D) Create the dummy Dataset.**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Emp ID** | **Age** | **Gender** | **Department** | **Monthly Income** | **Job Satisfaction** | **Work Life Balance** | **Years at Company** | **Number of Projects** | **Overtime** | **Promotions Last 5\_Years** | **Left Company** |
| 1 | 28 | Male | IT | 45000 | 3 | 2 | 2 | 4 | 1 | 0 | 0 |
| 2 | 35 | Female | HR | 60000 | 4 | 3 | 7 | 3 | 0 | 1 | 1 |
| 3 | 42 | Male | Finance | 75000 | 2 | 2 | 10 | 5 | 1 | 0 | 0 |
| 4 | 29 | Female | Marketing | 50000 | 5 | 4 | 3 | 6 | 1 | 1 | 1 |
| 5 | 50 | Male | Operations | 90000 | 3 | 3 | 15 | 7 | 0 | 2 | 0 |