**#1. Scenario**

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?**

For the above Scenario we can predict Employee Resignation using AI tool and Employee Management Software(EMW). EMW provide all the historical data about the employee such as Employee ID, Age, Employee satisfaction level(ESL), No of projects, Address(distance from home), Monthly income, Salary hike percentage, Performance rating, Years since last promotion, Level of job involvement, Count of absences each month, Hours spent at the company, Work life balance level etc.

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

**Stage 1: Domain selection**

Since all the inputs/variables are numeric the domain we are going to use is Machine Learning Algorithm.

**Stage 2: Learning Selection**

In the Above scenario ,the problem statement or the answer to the problem is very clear so we need to implement supervised learning.

**Stage 3:Supervised-(Regression or classification)**

For the above scenario, the prediction task is categorical(Employee may resign or not), therefore we have to use Supervised classification algorithm.

**C) Name the project**

The objective of the product is to forecast employee resignations based on their historical data. Therefore, I've chosen to name the project **'Resignation Forecast’.**

**D) Create the dummy Dataset**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Emp.id | Age | Employee satisfaction level out of 5. | distance from home (miles) | Monthly income $ | Salary hike percent | Perform  -ance rating | Job involve  -ment | Absence | Work life balance |
| 100 | 41 | 4 | 7 | 5999 | 11 | 4 | 2 | 10 | 2 |
| 101 | 43 | 2 | 8 | 5130 | 13 | 2 | 2 | 9 | 3 |
| 102 | 37 | 1 | 15 | 2090 | 7 | 3 | 3 | 15 | 3 |
| 103 | 25 | 3 | 3 | 2909 | 5 | 3 | 3 | 4 | 3 |
| 104 | 48 | 3 | 10 | 3468 | 10 | 3 | 4 | 5 | 3 |
| 105 | 32 | 4 | 17 | 4567 | 8 | 3 | 2 | 8 | 2 |
| 106 | 29 | 4 | 12 | 3857 | 12 | 4 | 2 | 7 | 4 |