**Hope Artificial Intelligence**

**Scenario Based Learning**

A company works with many employees, all the works are dependents on the employees. Even

if one of the employees resigns from the job immediately the assigned work will be not finished at the

time, so delivery of the project to the clients will be delayed. The company planned to make the solution for

this, they want to know which employee may resign next. If they know previously, they can arrange

alternatives to avoid such problems. As an AI Engineer, you must give a 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?**

* **Machine Learning:** Support Supervised, Unsupervised, and Semi-Supervised Learning Choose the right one for the given databases.
* **Supervised learning:** Train a model on labeled data of employees who have resigned in the past. The model can then be used to predict the likelihood of resignation for current employees.
* **Classification models:** The output based on the input parameter it’s a yes or no type of Logistic regression, decision trees, random forests, etc.

**B) Find out the 3 Stages of Problem Identification**

**STAGE 1:** Domain Selection (ML, DL, NLP, TSA) **ML**

**STAGE 2:** Learning Selection (1. Supervised learning, 2. Unsupervised learning, and 3. Semi-Supervised learning) **Supervised learning**

**STAGE 3:** Supervised (Regress or Classification)

**Classification**

**C) Name the Project**

Project name: Employee Resignation Prediction

**D) Create the dummy Dataset**

Here is a dummy dataset with 100 rows and 5 columns. You can modify this data to fit your specific needs.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| employee\_id | age | job\_satisfaction | performance\_rating | resignation |
| 1 | 25 | 3 | 3.5 | 0 |
| 2 | 30 | 4 | 4.2 | 1 |
| 3 | 28 | 2 | 3.8 | 0 |
| ... | ... | ... | ... | ... |
| 100 | 42 | 5 | 4.8 | 1 |