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.

**How will you achieve this in AI?**

To predict if an employee is going to resign or not, First we need to collect the data of all the employees like Departments they work, Seniority of the employee, Job Satisfaction levels, promotion details, trainings and through surveys and feedback from employees.

Analyze the data like average working hours, any work load the employee is facing, time since last promotion etc.

After analysing choose appropriate machine learning algorithm. In this case we can use Deep learning since we have large data sets.

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

1. Understanding the problem : First we need to understand what impact will be created to the project if an employee resigns. Then the problem needs to be defined by predicting which employee will resign within the given time frame.
2. Identify the data types available and what additional data is required to predict the outcome.Find the pattern and trend from the historical data regarding employee resignation.
3. Identify the solution and implement it. Design an machine learning algorithm, train the model using the data and implement the solution by integrating with compamy’s existing system.

Since the Input is numerical data we arrive that stage 1 to be of Machine learning. Here the input and output is clear so in stage 2 we arrive it as a supervised learning. Based on the input parameter we are categorising the out as Employee will resign or not resign so we arrive stage 3 as Classification

**Name the project – Employee Resignation Prediction**

**Create the dummy Dataset**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **EmployeeID** | **Age** | **Gender** | **Department** | **Tenure (months)** | **JobSatisfaction** | **EngagementScore** | **PerformanceRating** | **LastPromotion (months ago)** | **AvgWorkload (hours/week)** | **TrainingHours (last 6 months)** | **Resigned** |
| **1** | **29** | **M** | **IT** | **24** | **3.5** | **4.2** | **4** | **12** | **40** | **10** | **0** |
| **2** | **34** | **F** | **HR** | **48** | **4.1** | **4.5** | **3** | **24** | **38** | **20** | **1** |
| **3** | **45** | **M** | **Finance** | **60** | **2.8** | **3.9** | **2** | **36** | **42** | **5** | **0** |
| **4** | **30** | **F** | **IT** | **18** | **3.9** | **4.1** | **3** | **6** | **45** | **15** | **1** |
| **5** | **28** | **M** | **Marketing** | **36** | **4.2** | **4.3** | **4** | **18** | **37** | **12** | **0** |