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.

1. How will you achieve this in AI?
2. Find out the 3 -Stage of Problem Identification
3. Name the project
4. Create the dummy Dataset.

**AI Solution for Employee Resignation Prediction:**

**Actually As a working HR Professional I calculate the attrition data for my company:**

**%Attrition =(Exit Employees/Total Employees ) x 100**

**%Retention=(Total Employees - Exit Employees/Total Employees From Start) x 100**

A) That requirements based How to achieve this in AI

To predict which employees might resign, I'd implement a machine learning based solution with the following approach:

1. Input Data : Gather historical employee individual data including:

* Key Role Performance KPI metrics
* Attendance Log records
* Promotion history
* Salary changes
* Engagement survey results
* Achievements of Targets

2.Create current predictive features like:

* Recent performance decreased
* Increased absenteeism and absence
* Decreased engagement
* Missed promotions
* Worklife balance indicators
* Absenteeism

3.Implementation

* Dashboard for HR visibility

**B) 3Stage Problem Identification**

1.Machine Learning- Number Inputs and Outputs

2.Supervised Learning

3.Classification Resigned and Non Resigned

**C) Project Name**

**Attrition Alert: Predictive Employee AI Retention System**

**D) Dummy Dataset Structure**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| EEmp ID | Tenure | Last Promotion | Avg Hours Week | Performance Score | Engagement Score | Absent Days | Salary Change | Resigned |
| 1001 | 3 | 1 | 48 | 82 | 68 | 4 | 10% | 0 |
| 1002 | 1.5 | 0 | 52 | 75 | 52 | 8 | 0% | 1 |
| 1003 | 5 | 2 | 42 | 91 | 85 | 2 | 8% | 0 |
| 1004 | 2.5 | 0 | 55 | 68 | 45 | 12 | 10% | 1 |

**Columns Explanation:**

Tenure: Years at company

Last Promotion: Years since last promotion

AvgHours Week: Average weekly working hours

Performance Score: Current performance rating (100%)

Engagement Score: Latest engagement survey score (100%)

Absent Days: Days absent last quarter

Salary Change: Percentage salary change last year

Resigned: Target variable (1=resigned, 0=stayed)

This solution would provide the company with early warnings about potential resignations, allowing them to take proactive retention measures or plan for knowledge transfer.