

11. Problem Identification Assignments

A) How will you achieve this in AI?

The company wants to know which employee may resign next month.

1. Collect employee data (salary, overtime, leave, performance, satisfaction).
2. Check past records to see who resigned.
3. Train a Machine Learning model using this data.
4. Every month, the system will give a risk score for each employee.
5. HR can take action early (talk to employee, reduce workload, prepare backup).

B) 3 Stages of Problem Identification

1. **Define the problem** : Predict which employee may resign next month.
2. **Find causes** : Low salary / High overtime / Low satisfaction (feed back) / Poor manager rating / Leave
3. **Define output** : Yes / No (Will resign next month?)

Domain Selection

Machine Learning - Supervised learning - classification

C) Project Name

Employee Resignation Prediction System

D) Dummy Dataset

| Emp ID | Age | Dept | Salary | Over Time Hrs | Leave Days | Satisfaction (Employee Feedback) | Performance (manager Feedback) | Will Resign Next Month (output) |
|--------|-----|---------|--------|---------------|------------|----------------------------------|--------------------------------|---------------------------------|
| E01 | 28 | IT | 4000 | 25 | 4 | 2 | 3 | Yes |
| E02 | 35 | HR | 7000 | 5 | 1 | 4 | 4 | No |
| E03 | 30 | Sales | 5000 | 20 | 3 | 3 | 3 | Yes |
| E04 | 40 | Finance | 9000 | 8 | 0 | 5 | 5 | No |