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?

This can be achieved in using Machine Learning Algorithm using supervised learning classification techniques

B) Find out the 3 -Stage of Problem Identification

Stage 1: Domain Selection:

The dataset going to be used is numerical data hence the domain Machine Learning is used to design a model to predict the output

Step 2: Learning Selection:

The output of the above problem statement is very clear that the AI should predict that the employee will resign or not not resign and the input is also available. Hence we use Supervised learning Method

Step 3: Classification or Regression:

The output we are going to predict is going to be categorical (resign or not resign) hence the classification method is used

C) Name the project: Employee Attrition Predicition

D) Create the dummy Dataset.

| Employee ID | Age | Gender | Years at Company | Job Role | Monthly Income | Work-Life Balance | Job Satisfaction | Performance Rating | Number of Promotions | Overtime | Distance from Home | Education Level |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 52685 | 36 | Male | 13 | Healthcare | 8029 | Excellent | High | Average | 1 | Yes | 83 | Master’s Degree |
| 30585 | 35 | Male | 7 | Education | 4563 | Good | High | Average | 1 | Yes | 55 | Associate Degree |
| 54656 | 50 | Male | 7 | Education | 5583 | Fair | High | Average | 3 | Yes | 14 | Associate Degree |
| 33442 | 58 | Male | 44 | Media | 5525 | Fair | Very High | High | 0 | Yes | 43 | Master’s Degree |
| 15667 | 39 | Male | 24 | Education | 4604 | Good | High | Average | 0 | Yes | 47 | Master’s Degree |
| 3496 | 45 | Female | 30 | Healthcare | 8104 | Fair | High | Average | 0 | No | 38 | Associate Degree |
| 46775 | 22 | Female | 5 | Healthcare | 8700 | Good | High | Average | 0 | No | 2 | High School |
| 72645 | 34 | Female | 15 | Technology | 11025 | Fair | Medium | High | 1 | No | 9 | Master’s Degree |
| 4941 | 48 | Female | 40 | Technology | 11452 | Good | Medium | Below Average | 0 | No | 65 | Associate Degree |
| 65181 | 55 | Female | 16 | Media | 5939 | Poor | High | Average | 0 | No | 31 | Associate Degree |