

**Problem Statement:**

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?**

Using AI, we will train a predictive model on employee behavioural data to identify patterns that correlate with resignation risk. The system will proactively alert management when an employee's behaviour matches at-risk patterns.

we can categorize employee behaviour based on below metrics

- Duration of Work time - Login / logoff time
- Adhoc Leave plans
- Recent deliverables – on time / delayed
- How colab with co employees
- Recent compensation
- How often taking break and how long taking the break
- Work – Life Balance

Some employees will fall into this category because of personal issues once that issues are resolved they will be back to normal. So We need to identify the problem as well.

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

**Machine Learning** – Used to learn patterns from historical employee behavior.

**Supervised Learning – Classification** – Trained data is fully labelled from past employee history, we can go with Supervised Learning

**Classification Model** – Final stage predicts the category of each employee

**C) Name of the project**

“Employee Retention Intelligence”

**D) Create the dummy Dataset.**

| Name    | Exp | Work Hours | Hike% | Deliver On Time (1=Yes) | Freq Break (1=Yes) | Adhoc Leave (1=Yes) | WorkLife Balance (1=Good) | Collaboration (1=Good) | Resignation Risk |
|---------|-----|------------|-------|-------------------------|--------------------|---------------------|---------------------------|------------------------|------------------|
| Karthik | 10  | 8          | 10    | 1                       | 0                  | 0                   | 1                         | 1                      | Low              |
| Priya   | 7   | 8          | 9     | 1                       | 0                  | 0                   | 1                         | 1                      | Low              |
| Vinayak | 5   | 6          | 6.5   | 0                       | 1                  | 1                   | 0                         | 0                      | High             |
| Amutha  | 5   | 8          | 8     | 0                       | 0                  | 1                   | 1                         | 1                      | Low              |
| Kannan  | 2   | 8          | 8.5   | 1                       | 0                  | 0                   | 1                         | 1                      | Low              |
| Mohan   | 2   | 10         | 7     | 1                       | 1                  | 0                   | 1                         | 0                      | Mid              |