

# README

## Employee Attrition Analysis

### Introduction:

This repository contains code for analyzing employee attrition using HR data. The analysis involves preprocessing the data, exploring key factors influencing attrition, building predictive models, and providing recommendations for reducing attrition rates.

### Requirements:

- Python 3.12
- Jupyter Notebook or JupyterLab (Optional but recommended)
- Additional installs:
  - ✓ *pip install ipykernel -U --user --force-reinstall*
  - ✓ *pip install imbalanced-learn*

### Instructions for Running the Code:

- Ensure Python 3.12 is installed on your system.
- Install the required dependencies by running the following commands in your terminal or command prompt:  
*javascript*  
*c:/Python312/python.exe -m pip install ipykernel -U --user --force-reinstall*  
*pip install imbalanced-learn*
- Clone this repository to your local machine or download the ZIP file.
- Open a terminal or command prompt and navigate to the directory containing the code.
- Launch Jupyter Notebook or JupyterLab by running the command:  
*jupyter notebook*  
or  
*jupyter lab*
- Once Jupyter Notebook/Lab is running, open the Employee\_Attrition\_Analysis.ipynb file.
- Follow the instructions within the notebook to execute each code cell sequentially.
- View the analysis results, including insights gained, model performance, and recommendations for reducing employee attrition.

### Additional Information:

- The Employee\_Attrition\_Analysis.ipynb notebook contains detailed code, explanations, and visualizations for each step of the analysis.
- Ensure that the dataset file (WA\_Fn-UseC\_-HR-Employee-Attrition.csv) is present in the same directory as the notebook.