HR HELPING HAND: THE EMPLOYEE ATTRITION AND PERFORMANCE ANALYSIS
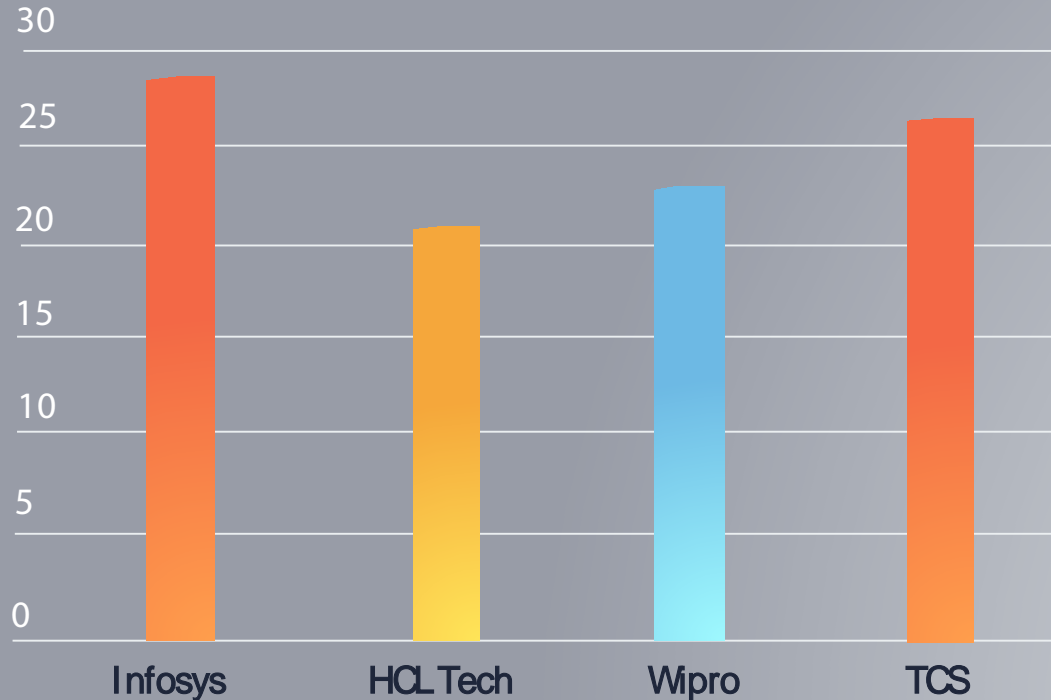
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INTRODUCTION

HR estimates the requirement of human resources in each part of organization and plan to recruit talented people, placing each employee's progression, employee's retention, attrition, salaries and other welfare benefits. Employees are the treasured property of any organization. However, if you quit your job   unexpectedly, the company will cost a lot of money. Not only new employees are wasting money and time, but new employees are also spending time making profits for their companies.

OBJECTIVE OF OUR PROJECT

- **HR Analysis tool** for companies especially those with large workforce.

- To find the possible reasons for employee attrition, in order to prevent valuable employees from leaving.

- Predicting employee's performance rating.

DATASET AND PARAMETERS

Variable	Meaning	Levels
Age	Age of the employee	
Attrition	Whether the employee left in the previous year or not	
BusinessTravel	How frequently the employees travelled for business purposes in the last year	
Department	Department in company	
DistanceFromHome	Distance from home in Kms	
Education	Education Level	1 'Below College'
		2 'College'
		3 'Bachelor'
		4 'Master'
		5 'Doctor'
EducationField	Field of education	
EmployeeCount	Employee count	
EmployeeNumber	Employee number/id	
EnvironmentSatisfaction	Work Environment Satisfaction Level	1 'Low'
		2 'Medium'
		3 'High'
		4 'Very High'

Gender	Gender of employee	
Job Involvement	Job Involvement Level	1 'Low'
		2 'Medium'
		3 'High'
		4 'Very High'
JobLevel	Job level at company on a scale of 1 to 5	
JobRole	Name of job role in company	
JobSatisfaction	Job Satisfaction Level	1 'Low'
		2 'Medium'
		3 'High'
		4 'Very High'
MaritalStatus	Marital status of the employee	
MonthlyIncome	Monthly income in rupees per month	
NumCompaniesWorked	Total number of companies the employee has worked for	
Over18	Whether the employee is above 18 years of age or not	
PercentSalaryHike	Percent salary hike for last year	
PerformanceRating	Performance rating for last year	1 'Low'
		2 'Good'
		3 'Excellent'
		4 'Outstanding'
RelationshipSatisfaction	Relationship satisfaction level	1 'Low'
		2 'Medium'
		3 'High'
		4 'Very High'

Standard Hours	Standard hours of work for the employee	
Stock Option Level	Stock option level of the employee	
Total Working Years	Total number of years the employee has worked so far	
TrainingTimesLastYear	Number of times training was conducted for this employee last year	
WorkLifeBalance	Work life balance level	1 'Bad'
		2 'Good'
		3 'Better'
		4 'Best'
YearsAtCompany	Total number of years spent at the company by the employee	
YearsSinceLastPromotion	Number of years since last promotion	
YearsWithCurrManager	Number of years under current manager	

Training data vs. test data

One dataset

Training | Test

Test data

Training data → Algorithm → Test algorithm Accuracy
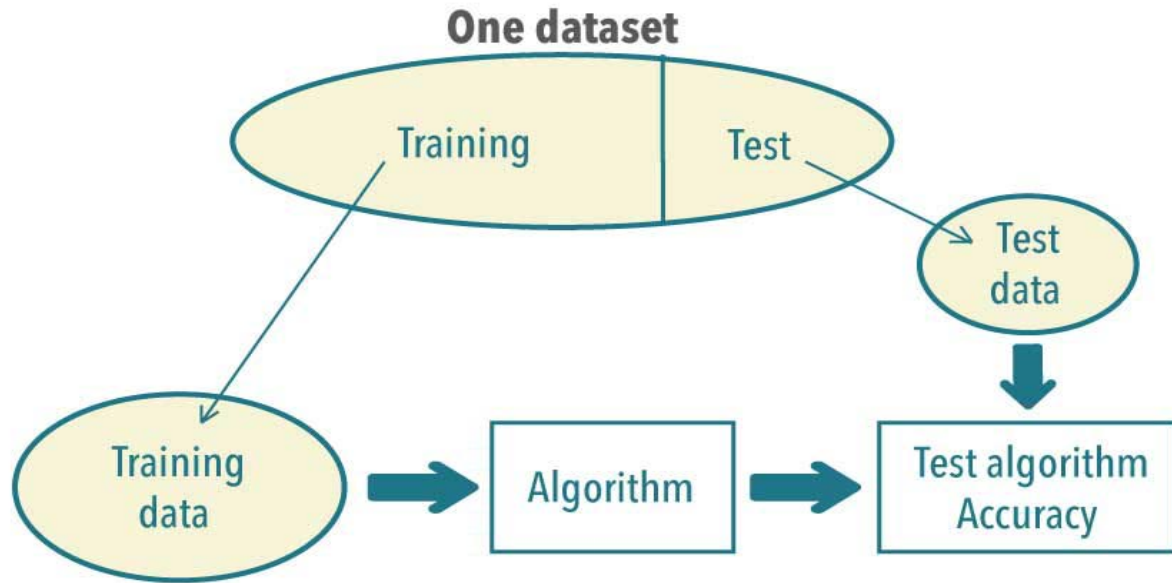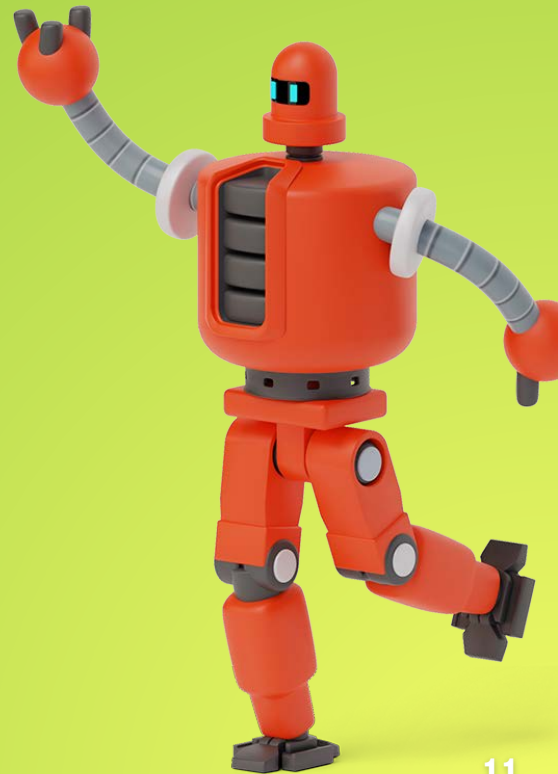
PROPOSED MODEL
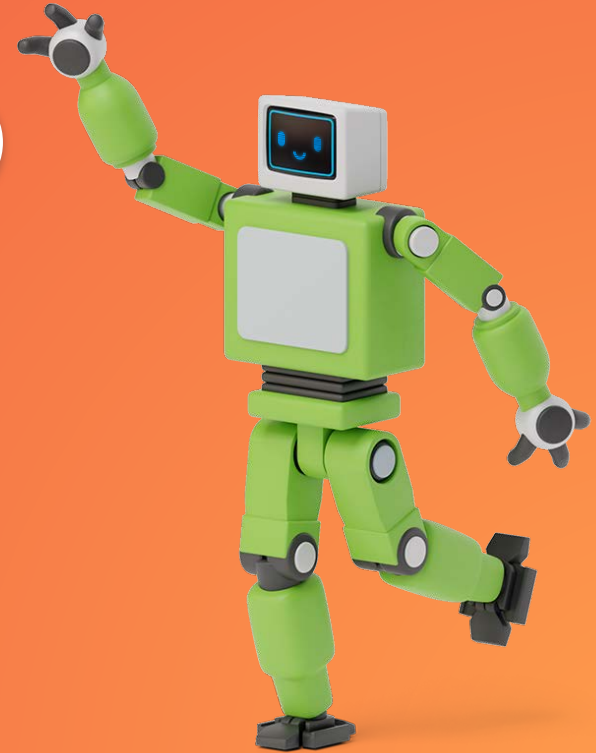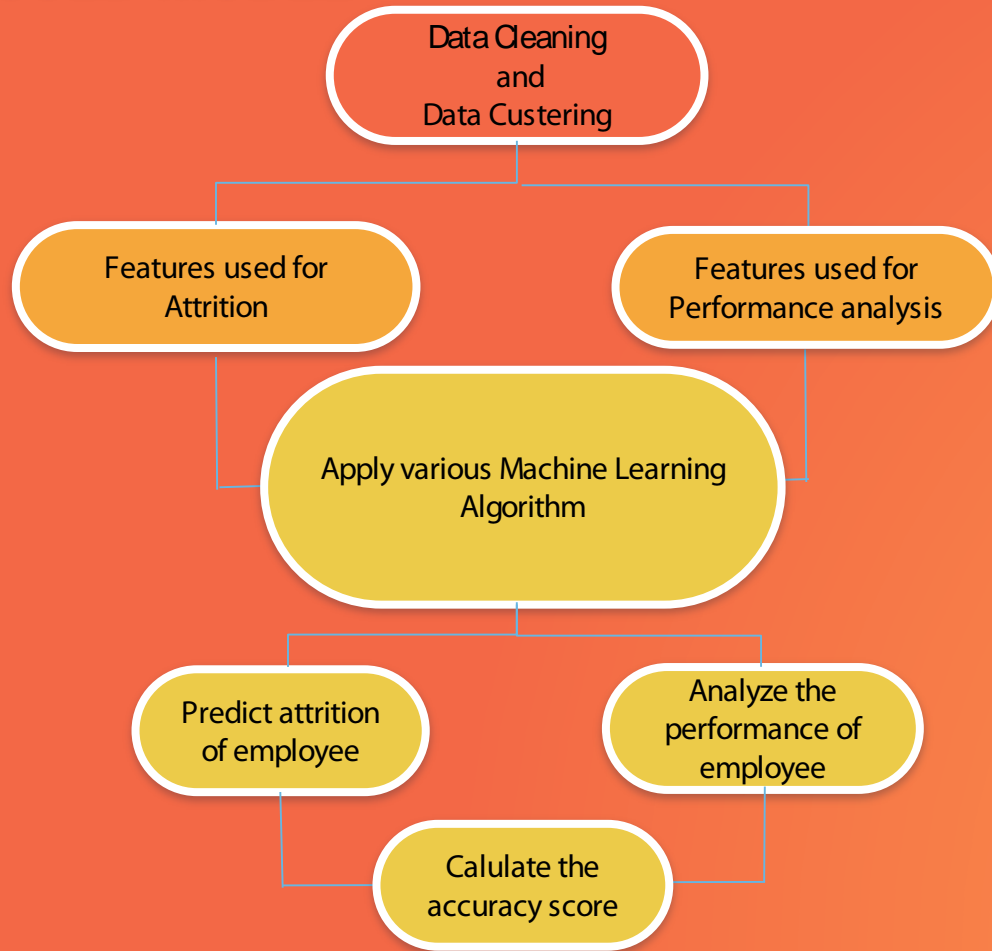
AIGORITHM TO BE USED

For Attrition Prediction

- Decision Tree

- Random Forest

- Logistic Regression

- SVM

For Performance Analysis

- K-mean clustering

- hierarchical Clustering

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THANK YOU

Bring the attention of your audience