EMPLOYEE PROMOTION PREDICTION

Project no:1

Year: 2-1 branch: CSD section:B-409

Team number:7

TEAM DETAILS

Team member's names:
member1.**Talisetti manikanta soma sundar**
member2.**Gedela vijay sai rahul**
member3.**Gubbala tarun kumar**

Project statement:
Companies often struggle to identify which employees should be promoted. The goal is to develop a machine learning model that predicts the likelihood of an employee promotion based on various factors such as performance, experience, qualifications, and previous feedback.

Domain :
Human resource analytics/ workforce management.

Technologies used:
Programming language: python
Libraries: pandas, numpy, scikit-learn, tensorflow\pytorch, matplotlib,seaborn
Data base: mySQL/postgreSQL

Model development : flask / fastAPI /streamlit

Approach :

1. Data collection:

   Gather historical employee data, including demographics, performance metrics, and pst promotions

2. data preprocessing:

   Handle missing values, outlier detection , and data Cleaning.

   Perform feature engineering(creating meaningful (creating meaningful variables from raw data).

3. exploratory data analysis(EDA):

   Analyze feature importance and trends using Visualizations.

   Identify correlations and anomalies in data.

4. Model selection & training:

   Logistic regression
   Decision trees
   Random forest
   Gradient boosting(xGboost, lightGBM)
   Deep learning(neural networks)

Output:

A predictive model that provides a probability score for Each employee.

HR managers can use these insights for data- driven Promotion decisions.

Conclusion:

The employee promotion prediction model helps HR Teams make unbiased, data-driven decisions.

It improves employee satisfaction and retention by Recognizing deserving candidates.

Thank you…