PROJECT REPORT

PREDICTING HIGH POTENTIAL EMPLOYEES IN A CORPORATE

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Project: Predicting High Potential Employees in a Corporate

Domain: Machine Learning

CONTENTS:

1.INTRODUCTION

1.1 OVERVIEW

Employee turnover has been identified as a key issue for organizations because of its adverse impact on work place productivity and long term growth strategies. To solve this problem, organizations use machine learning techniques to predict employee turnover. Accurate predictions enable organizations to take action for retention or succession planning of employees.

2.LITERATURE SURVEY:

2.1EXISTING PROBLEM:

Employees are the key resources of the organization. The success or failure of an organization depends on the employee. Most of the organizations or companies have a formal performance evaluation system in which employee job performance is graded on a regular basis, usually once or twice a year. It helps employee behavior toward organizational aims by permitting employees to know what is expected for them, and it yields information for making employment decisions, such as those regarding pay raises, promotion, or releases.

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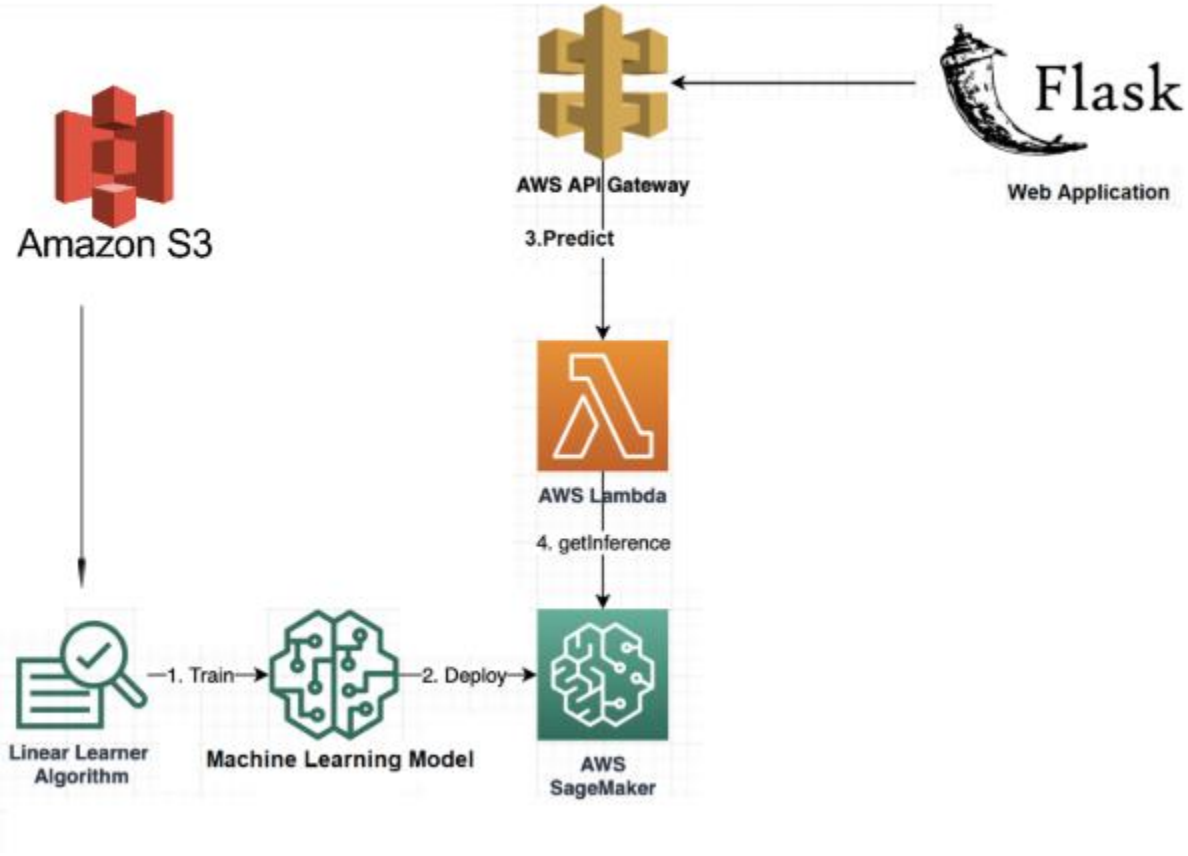
2.2 PROPOSED SOLUTION:

Build & Deploy a Machine Learning model to rate the employee performance using Amazon SageMaker. Create a python - flask application that interacts with the model deployed on AWS Sagemaker with the help of AWS API Gateway and AWS Lambda Services.

3.THEORITICAL ANALYSIS:

3.1. BLOCK DIAGRAM:



3.2. SOFTWARE DESIGNING:

- Amazon S3
- AWS API Gateway
- AWS Lambda
- Flask Integration
- Amazon SageMaker
- Python 3

4.**EXPERIMENTAL INVESTIGATIONS:**

AWS CLOUD:

Aws Cloud Provides Many Services Such as Sagemaker,lambda and Api Gateway,etc.

SAGEMAKER:

Amazon SageMaker is a fully managed service that provides every developer and data scientist with the ability to build, train, and deploy machine learning (ML) models quickly. SageMaker moves the heavy from each step of the machine learning process to make it easier to develop high quality models.

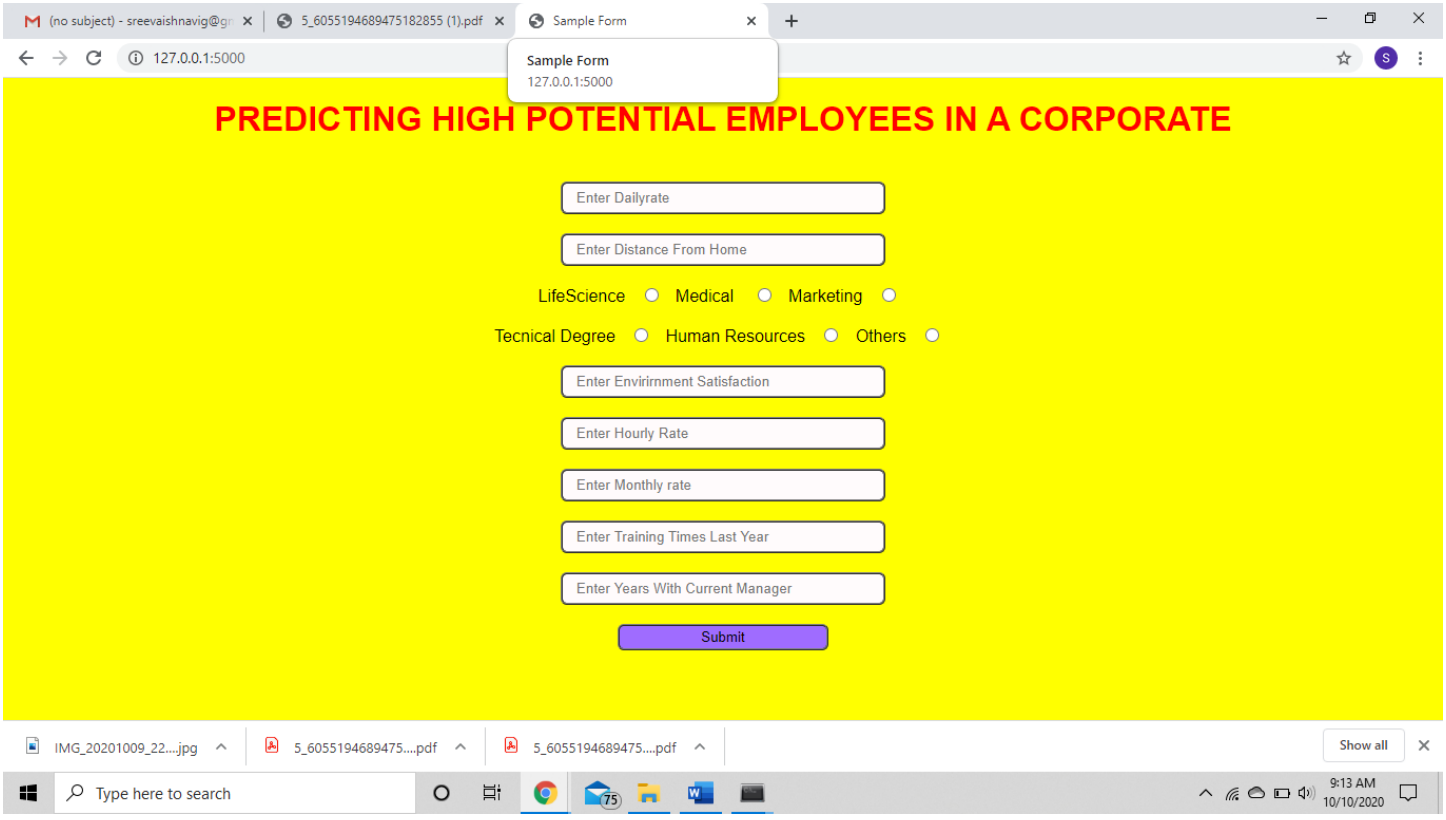
LAMBDA:

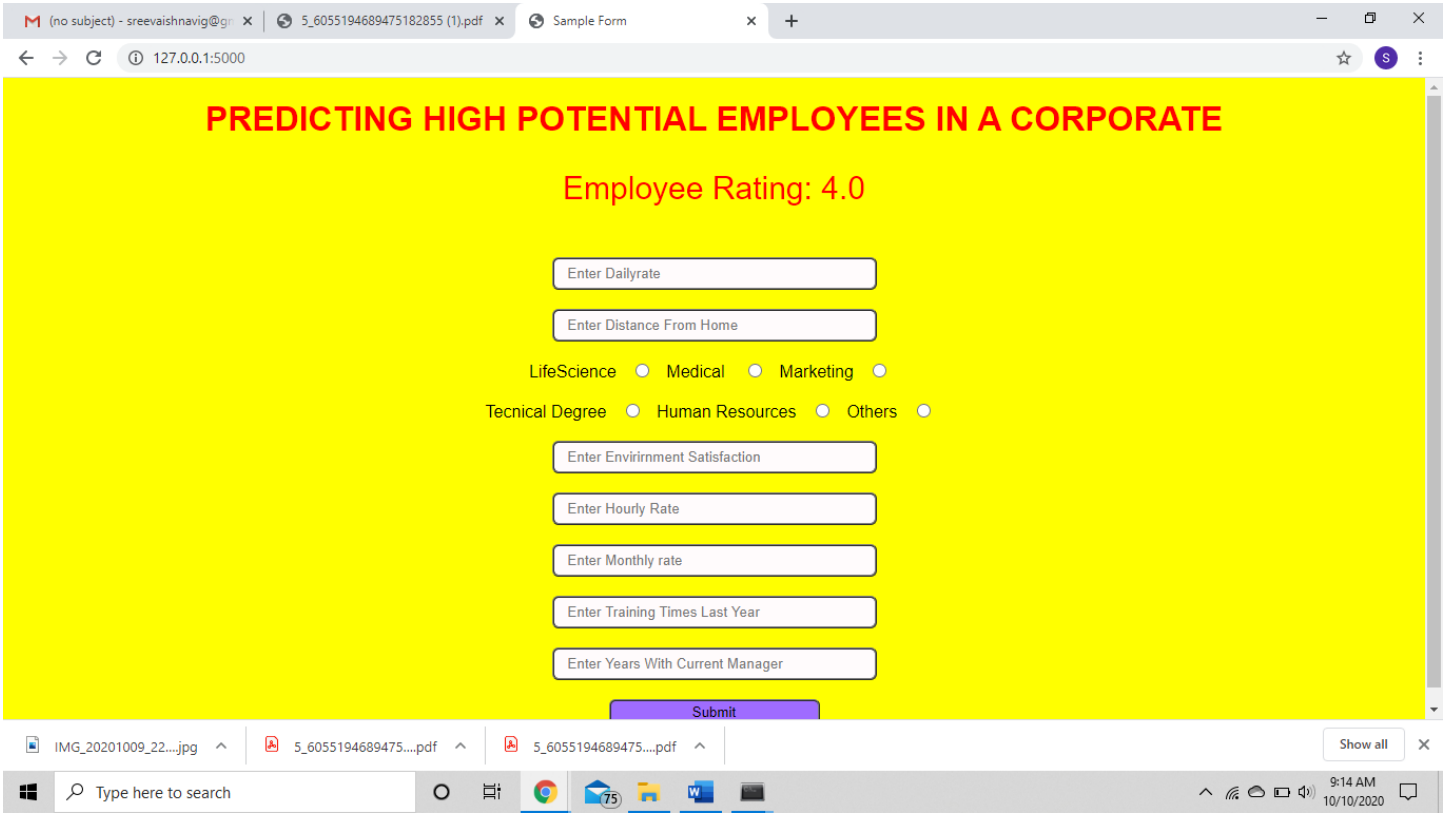
With Lambda, you can run code for virtually any type of application or backend service - all with zero administration. Just upload your code and Lambda takes care of everything required to run and scale your code with high availability. You can set up your code to automatically trigger from other AWS services

API GATEWAY:

Amazon API Gateway is an AWS service for creating, publishing, maintaining, monitoring, and securing REST,HTTP, and WebSocket APIs at any scale. API developers can create APIs that access AWS or other web services, as well as data stored in the AWS Cloud API Gateway creates RESTful APIs that Are HTTP-based.

5.RESULT:


Sample Form
127.0.0.1:5000
PREDICTING HIGH POTENTIAL EMPLOYEES IN A CORPORATE
Enter Dailyrate
Enter Distance From Home
LifeScience
Medical
Marketing
Tecnical Degree
Human Resources
Others
Enter Envirinment Satisfaction
Enter Hourly Rate
Enter Monthly rate
Enter Training Times Last Year
Enter Years With Current Manager
Submit


PREDICTING HIGH POTENTIAL EMPLOYEES IN A CORPORATE
Employee Rating: 4.0
Enter Dailyrate
Enter Distance From Home
LifeScience
Medical
Marketing
Tecnical Degree
Human Resources
Others
Enter Envirinment Satisfaction
Enter Hourly Rate
Enter Monthly rate
Enter Training Times Last Year
Enter Years With Current Manager
Submit

6.ADVANTAGES

- Easy to understand and efficient training algorithm(xgclassifier algorithm).
- Order of training instances has no effect on training
- Pruning can deal with the problem of overfitting
- Always find a “good solution”

7.APPLICATIONS:

- Used in multinational companies
- Also use in educational institutions to predict the student’s talent
- Used in business organizations.

8. FUTURE SCOPE:

The importance of predicting employee turnover in organizations and the application of machine learning in building turnover models was done in this project. the best thing is the capture of data around interventions done by the organization for at-risk at employees and its outcome. This will transform the model

9.CONCLUSION

The results demonstrate that the XGBoost classifier is a superior algorithm in terms of significantly higher accuracy, relatively low runtimes and efficient memory utilization for predicting turnover. The formulation of its regularization makes it a robust technique capable of handling the noise in the data from HRIS, as compared to the other classifiers, thus overcoming the key challenge in this domain. Because of these reasons itis recommended to use XGBoost for accurately predicting employee turnover, thus enabling organizations to take actions for retention or succession of employees.

9.BIBILOGRAPHY:

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- J. L. Cotton and J. M. Tuttle, “Employee turnover: A meta-analysis and review with implications for research”, Academy of management Review, 11(1), 55-70, 1986

CARRER PATHWAYS: