Build an End to End Classification model on AWS sagemaker

Overview

AWS (Amazon Web Services) is a comprehensive, evolving cloud computing platform provided by Amazon that includes a mixture of infrastructure as a service (IaaS), platform as a service (PaaS), and packaged software as a service (SaaS) offerings. AWS services can offer organizations tools such as compute power, database storage, and content delivery services. One of the important services of AWS is Amazon sagemaker. Amazon sagemaker is a managed service on AWS cloud. It provides tools to deploy any Machine Learning algorithm on the cloud for predictive analysis. Data Scientist needs to deploy their built Machine Learning model in real-time, but they lack software engineering skills and rely on software engineers to deploy their model.

In this project, a classification model predicting the cause of death has been built on AWS using the service amazon sagemaker. AWS services like sagemaker, datawrangler, and lambda have been used in this project.

Aim

- To understand the working of AWS
- To build a classification model predicting a patient's cause of death

Data Description

The data provided is for 2020 death cases. There are 16 features available with case number as a unique identifier and Reason of Death as a target variable. The Data dictionary is attached with the data.

Tech Stack

➔ Language: Python
➔ Libraries: pytorch, pandas, numpy, regex,boto3, seaborn, sagemaker, matplotlib
➔ Services used- AWS lambda, AWS sagemaker, Datawrangler

Approach

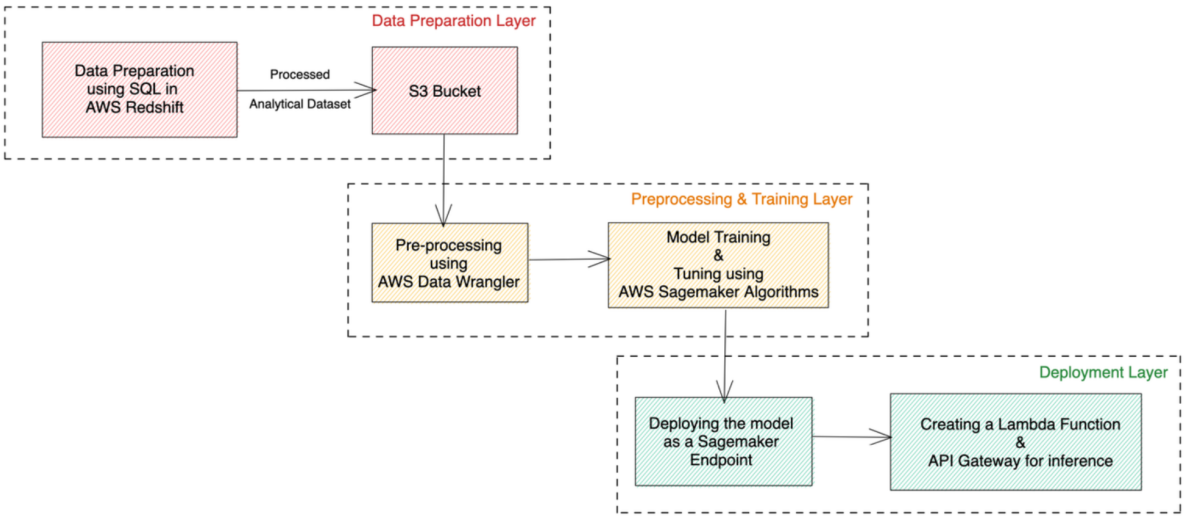

Fig- Image depicting an approach for the project

Takeaways

1. What is AWS?
2. Introduction to redshift
3. What is AWS s3 bucket?
4. How to push data from redshift to s3?
5. What is amazon sagemaker?
6. What is AWS datawrangler?
7. How to load data in datawrangler?
8. How to load data in AWS sagmeker?
9. How to create an instance in AWS sagemaker?
10. Base modelling AWS sagemaker
11. Model deployment of the base model
12. Automatic hyperparameter tuning in sagemaker
13. Data monitoring and capturing in AWS
14. How to create monitoring schedule in AWS?
15. Introduction to AWS lambda