**CMPE 295 B**

**Prof. Kaikai Liu**

**Project: Sustainable Fashion Recommendation Application using Machine Learning**

**ML Deployment**

**Architecture:**

Diagram

Description automatically generated with medium confidence

We are developing the model on Google Colaboratory. We are deploying the model by using AWS cloud services like AWS S3, Amazon API Gateway( RESTful API) and AWS Lambda functions along with AWS Amplify. For deployment we are following these steps:

* Once, model is developed, we have pickle the model and uploaded it to S3 bucket.
* We have created the REST API by using API Gateway and AWS Lambda function with Python runtime.
* For uploading model artifacts and holding other files like training dataset, training data, etc. we are going to use S3 bucket.
* For interaction with all AWS services, we are going to use Boto3 which is Python SDK for AWS.
* When we get an event from API, Lambda function will load the saved model file from S3 and then the prediction will be returned based on the input.
* For testing the API, we are using Postman and also implementing end-to-end testing.
* In this way, users will be able to interact with the Machine Learning component.

**Screenshots of the API:**

**API Gateway:**

**Graphical user interface, application

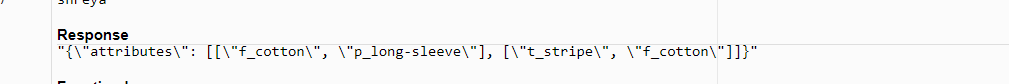
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**Lambda Function:**

**Graphical user interface, text, application

Description automatically generated**

**Lambda Function Execution:**

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**Lambda Function Execution Time and CPU usage:**

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**Postman Test:**

Graphical user interface, text, application, email

Description automatically generated