## **EAI 6010: Applications of Artificial**Intelligence

Module 5 Assignment

Jeseeka Shah

Prof. Abhijit

Sanyal

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## Introduction:-

Creating technology from the bottom up is getting increasingly rare these days. Most new products need a service at some point. Almost every new initiative, regardless of industry, uses existing solutions to some level. When developing a machine learning model and looking for existing expertise and pre-designed (pre trained) code to use in your solution, the process isn't all that different. All you must do now is modify the code to suit your own company requirements. Machine learning algorithms have several challenges, the most serious of which is a shortage of high-quality data. A project may be halted before it even begins due to a lack of training data. Data gathering, labeling, cleaning, and preprocessing can all add up to a significant financial outlay for a project. As a result, many machine learning initiatives fail due to a lack of model training and validation resources. Using off the-shelf technologies reduce preprocessing costs. They are intended to do the most common operations with little setup. The best thing is that they are available as ready-to-use solutions for all phases of machine learning workloads.

Cloud computing with Google: From healthcare to finance to robotics, there is no industry where artificial intelligence (AI) and machine learning (ML) are not transforming the world and simplifying everyone's lives. We cannot, however, pretend that cloud computing and artificial intelligence are unrelated. The administration of data lakes, big data analysis, streaming data, and enormous data storage are all crucial parts of any machine learning model, and more than 90% of enterprises are using cloud services for these purposes. I used the input data from the news category classifier. Data scientists frequently have to explain their findings to others.

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news-classifier — rzsh — 165x46

Allow unauthenticated invocations to [news-classifier] (y/N)? y

Building using Dockerfile and deploying container to Cloud Run service [news-classifier] in project [wy-project-188-34300] region [us-central1] > Building deploying new service... Done.

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***Colonian Annual Server Errors/(iii)

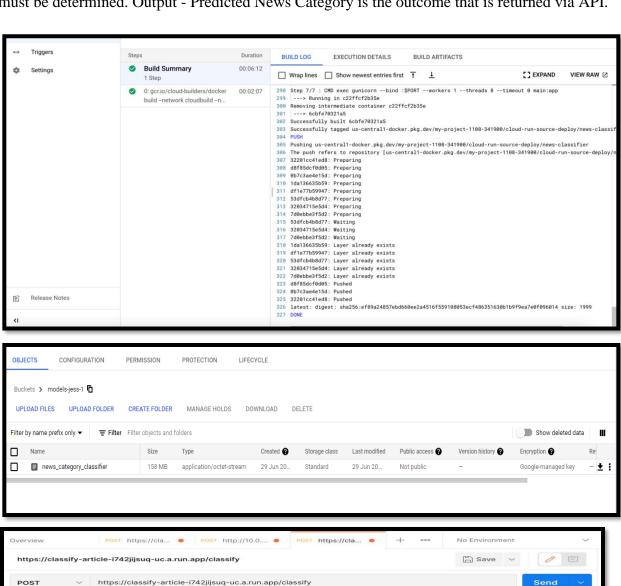
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I've made a microservice available on the cloud that contains the News Category Classifier model. Run a Google Cloud Platform (GCP) instance with a backend URL created so that it may be used as an API by other suppliers to accept data and provide results.

Two inputs in JSON format must be provided as arguments to this microservice. These input data's names are: -

**Headline:** It denotes the news story's headline, whose category must be anticipated.

**Short Description** - This element denotes a brief description of the news item whose category must be determined. Output - Predicted News Category is the outcome that is returned via API.



form-data x-www-form-urlencoded raw binary GraphQL

Raw Preview Visualize JSON V

"predictedClass": "HEALTHY LIVING"

Cookies Headers (6) Test Results

Pretty

"A Swirling Vortex Is No Match for This Deep-Sea Sponge"

"shortDescription": "A new paper finds a glass sponge has the power vortices that are created when fluid moves around a blunt object

Cookies

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## Conclusion

To enable Terraform to use the Docker image, we must construct it and add it to the project's container registry. The procedures below may be executed from the source code's directory after using Cloud Shell to clone it. You have the ability to delete all of the resources you've used in Terraform. Run the following command to accomplish this, being careful to approve it with "yes." So far, we have been able to use Terraform to provide our deployment to Cloud Run as code. You might be able to launch programs considerably more rapidly as a result.

The URL of the service: - <a href="https://news-classifier-q7uu4hjoea-uc.a.run.app">https://news-classifier-q7uu4hjoea-uc.a.run.app</a>

## References

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- 2. Alake, R. (2021, November 3). Implementing AlexNet CNN Architecture Using TensorFlow 2.0+ And Keras. Towards Data Science. https://towardsdatascience.com/implementing-alexnet-cnn-architecture-using tensorflow-2-0-and-keras-2113e090ad98.
- 3. Timothy. (2020, January 23). Deploying Docker Images To Cloud Run Using Terraform. Medium. https://medium.com/google-cloud/deploying-docker images-to-cloud-run-using-terraform-ee8ae4ecb72