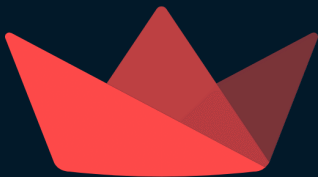




Rain Prediction

USING ARTIFICIAL NEURAL
NETWORK

Project by : Deepchand O A



mlflow

CI/CD Pipeline

TO AWS EC2

The screenshot shows the GitHub Actions interface for a workflow named 'main.yaml'. The workflow is currently in a 'Queued' state. The interface includes a sidebar with navigation options like 'Summary', 'Jobs', 'Run details', 'Usage', and 'Workflow file'. The main area displays the workflow's status and a diagram of its stages: 'Continuous Integration', 'Continuous Delivery', and 'Continuous-Deployment'. The top navigation bar shows the repository 'deepchanddc22 / MLOPS-RAIN' and various settings options.

The screenshot shows the GitHub Actions interface for a workflow named 'aws.yml'. The workflow has completed successfully. The interface includes a sidebar with navigation options like 'Summary', 'Jobs', 'Run details', 'Usage', and 'Workflow file'. The main area displays the workflow's status and a diagram of its stages: 'Continuous Integration', 'Continuous Delivery', and 'Continuous-Deployment'. The top navigation bar shows the repository 'deepchanddc22 / MLOPS-RAIN' and various settings options.

The screenshot shows the AWS Management Console 'Status checks' page. The page displays the status of various checks, including 'System status checks' and 'Instance status checks'. The 'System status checks' section shows a 'System reachability check passed' status. The 'Instance status checks' section shows an 'Instance reachability check passed' status. The left sidebar contains navigation options like 'Spot Requests', 'Savings Plans', 'Reserved Instances', 'Dedicated Hosts', 'Capacity', 'Reservations', and 'Images'. The top navigation bar shows the 'Status and alarms' tab selected.

Front end

MADE WITH STREAMLIT

Rain Predictor

Made by: Deepchand O A

Temperature (F)

- +

Humidity (%)

- +

Wind Speed (mph)

- +

Cloud Cover (%)

- +

Rain Today

▼

Predict

Yes, it will rain

An End to End ML Ops project on rain prediction using Artificial Neural Network and deploying to AWS EC2 instance.

What this project does?

The ANN is trained on previous records of weather data (dummy data) which can use the trained model and predict the possibility of rain tomorrow.

How it was done?

- Data is fed into data_handler module which splits the train and test data and also does the preprocessing.
- Which is fed into a training pipeline module in which the training parameters are tracked using MLflow while the model is trained.
- Once the model is trained it is saved.
- Front end is built using streamlit and takes input from user and loads the trained ANN model and does the necessary preprocessing and passes it to the model and then it predicts the output.
- Now all of these codes are pushed to github.
- Connect to AWS EC2 instance
- Deploy!

Tech Stack Used:

- Python
- Pandas
- Tensorflow
- Scikit-learn
- MLflow
- Streamlit
- Docker
- Github
- AWS EC2