

## PROJECT DEVELOPMENT PHASE

### SPRINT-4

Date	07 November 2022
Team ID	PNT2022TMID22608
Project Name	Natural Disaster Intensity Analysis and Classification using Artificial Intelligence

### INTEGRATE THE WEB APP WITH AI MODEL:

After creating the Model, the Model should be integrated with the web app using the Flask application. The coding part is named as app.py and it will be running in the local host through the generated link. By navigating the local host the webpage will be visible.

```
73         output = frame.copy()
74         #print("apple")
75         frame = cv2.cvtColor(frame, cv2.COLOR_BGR2RGB)
76         frame = cv2.resize(frame, (64, 64))
77         #frame = frame.astype("float32")
78         x=np.expand_dims(frame, axis=0)
79         result = np.argmax(model.predict(x), axis=-1)
80         index=['Cyclone', 'Earthquake', 'Flood', 'Wildfire']
81         result=str(index[result[0]])
82         #print(result)
83         #result=result.tolist()
84
85         cv2.putText(output, "activity: {}".format(result), (10, 120), cv2.FONT_HERSHEY_PLAIN,
86                     1, (0,255,255), 1)
87         #playaudio("Emergency it is a disaster")
88         cv2.imshow("Output", output)
89         key = cv2.waitKey(1) & 0xFF
90
91         # if the `q` key was pressed, break from the loop
92         if key == ord("q"):
93             break
94
95         # release the file pointers
96         print("[INFO] cleaning up...")
97         vs.release()
98         cv2.destroyAllWindows()
99         return render_template("upload.html")
100
101 if __name__ == '__main__':
102     app.run(debug=False, threaded=True)
```

Output



IBM 127.0.0.1:5000/home

127.0.0.1:5000/home

Gmail YouTube Maps AI-Based-Natural-D...

### Cyclone

activity: Cyclone

Sudden release of stored energy, which creates seismic waves.

Uncontrolled fire in a forest, grassland, brushland

WildFire

29°C 10:17 08-11-2022

The image shows a web browser window displaying a dashboard for natural disasters. The dashboard includes a section for "Cyclone" with a satellite image of a cyclone and a description: "Sudden release of stored energy, which creates seismic waves." There is also a section for "WildFire" with a photo of a fire and the description: "Uncontrolled fire in a forest, grassland, brushland". The browser window has multiple tabs open, including "IBM" and "127.0.0.1:5000/home". The Windows taskbar is visible at the bottom, showing the time as 10:17 on 08-11-2022 and the temperature as 29°C.

## **MODEL DEPLOYMENT:**

The trained model which is running in the localhost without any error is deployed in the IBM Cloud for making available for the users to predict the Disaster's type and its intensity. It is integrated with the Flask application.

The screenshot shows the IBM Watson Studio interface. The browser address bar displays the URL: `eu-gb.dataplatform.cloud.ibm.com/ml-runtime/spaces/32e4c41f-866e-49bf-a8d1-48bfbfb34b21/deployments?context=cpdaas`. The page title is "M\_deploy". The "Deployments" tab is selected, showing a table with one deployment:

Name	Type	Status	Asset	Last modified
(p) Disaster	Online	Deployed	Disaster Model	7 minutes ago MANJU D (You)

Below the table, it indicates "Items per page: 20" and "1-1 of 1 items". On the right side, there is a message: "Drop files here or browse for files to upload." and a note: "Stay on the page until upload completes. Incomplete uploads are cancelled." The bottom of the screen shows a Windows taskbar with the date and time: 11:57, 10-11-2022.