IBM Micro-badge: Visual Recognition

Detecting damaged neighbourhood to identify burned homes and intact homes using IBM Visual Recognition Service

Skills Required:

IBM Cloud

IBM Watson

IBM Watson Visual Recognition

Project Description:

Sometimes local governments must respond to disasters or accidents that destroy large numbers of homes or buildings. They may need to demolish partially destroyed homes and manage disaster debris. If your community does not have a disaster debris management plan,they may want to consider developing one.

Cleanup activities related to returning to homes and businesses after a disaster can pose significant health and environmental challenges. People can be exposed to potentially life-threatening hazards from leaking natural gas lines, and carbon monoxide poisoning from using unwanted fuel-burning equipment indoors. During a flood cleanup, failure to remove contaminated materials and reduce moisture and humidity may present serious long-term health risks from micro-organisms, such as bacteria and mold.

Detecting damaged neighbor-hoods to identify burned homes and intact homes using IBM Visual Recognition Service- this interactive model helps the disaster management to identify burned and intact homes. This can help disaster management team to recover faster, minimize or prevent the environmental impacts of mismanaged wastes, and ultimately support compliance with environmental regulations

Our Aim:

To detect the images taken from drone or satellite and predict among three classes.
The three possible classes of detected images are :

1. Burned Homes
2. Aerial Homes
3. No Homes

Process :

Task 1: Data Collection

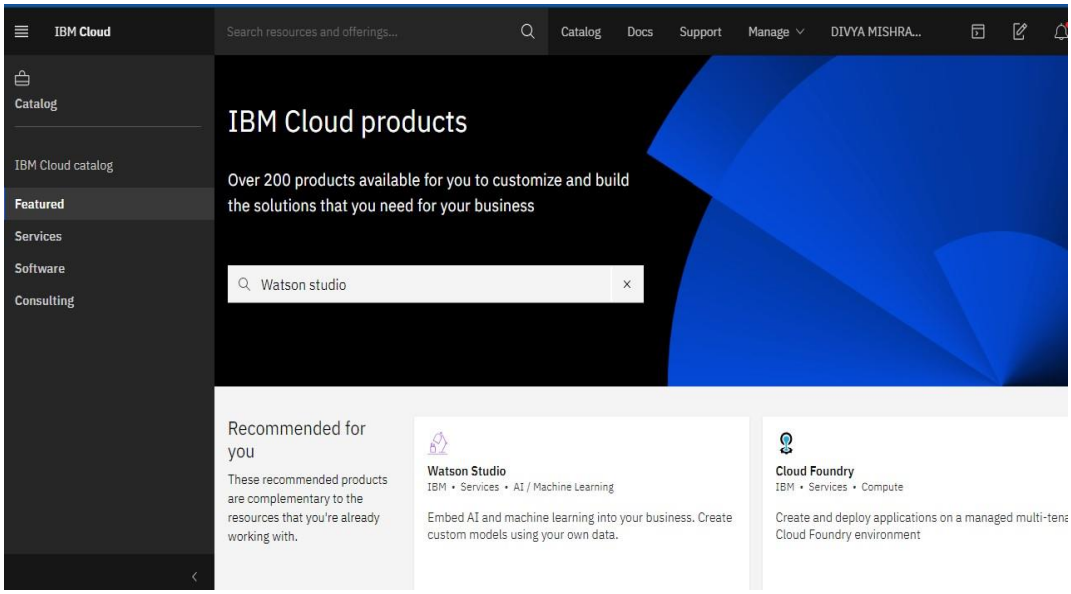
Download dataset from:Kaggle .

Task 2: Create Watson Studio Project

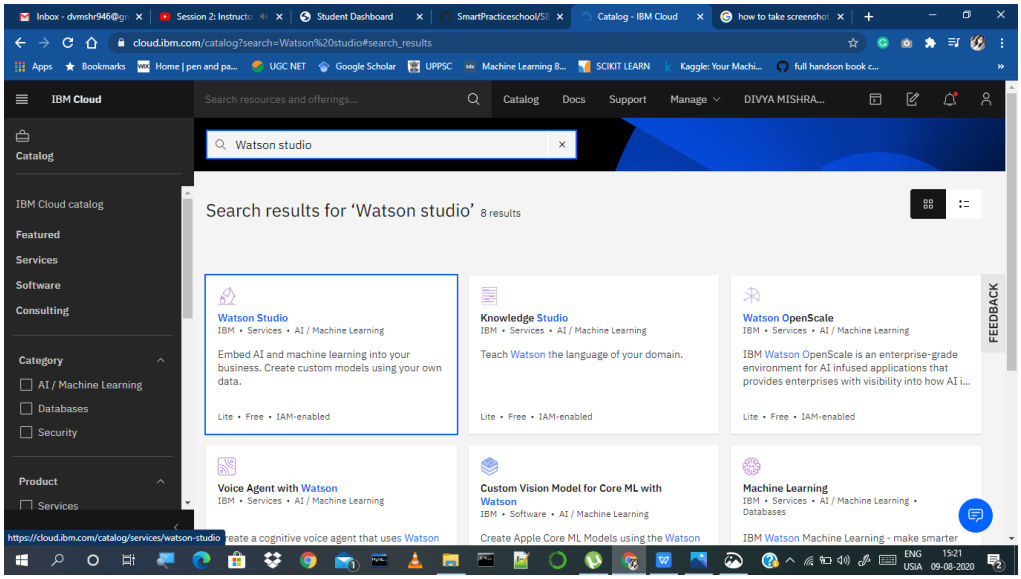
Step 1: Login to IBM Cloud.

https://cloud.ibm.com/login

Step 2: Go to **Catalog**. In the search bar , search for **Watson studio.**



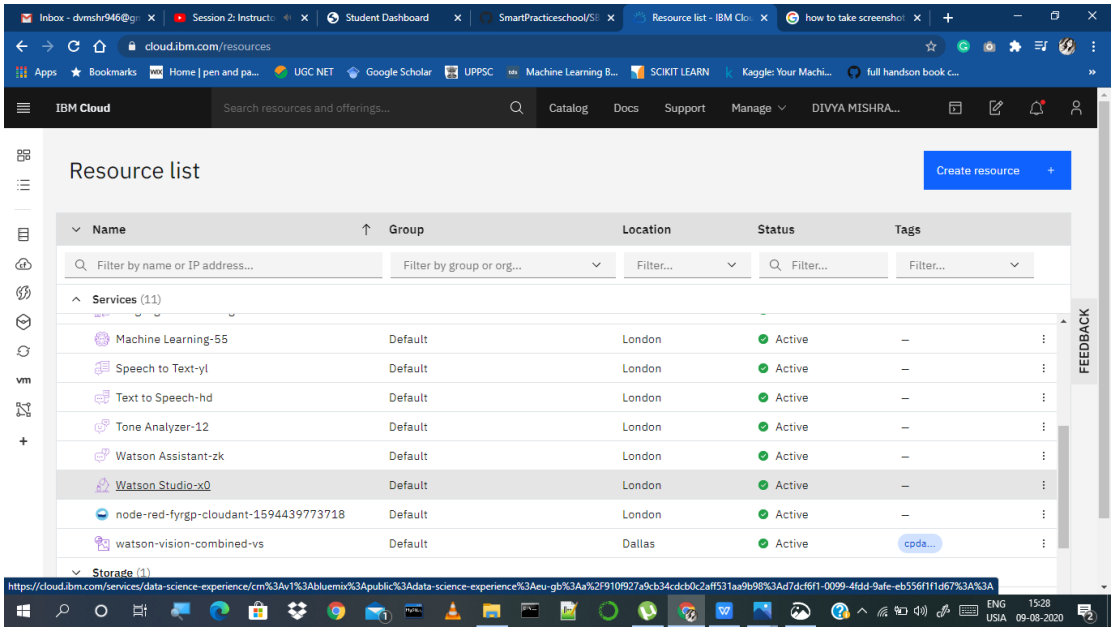
Step 3: Click on **Watson Studio.**



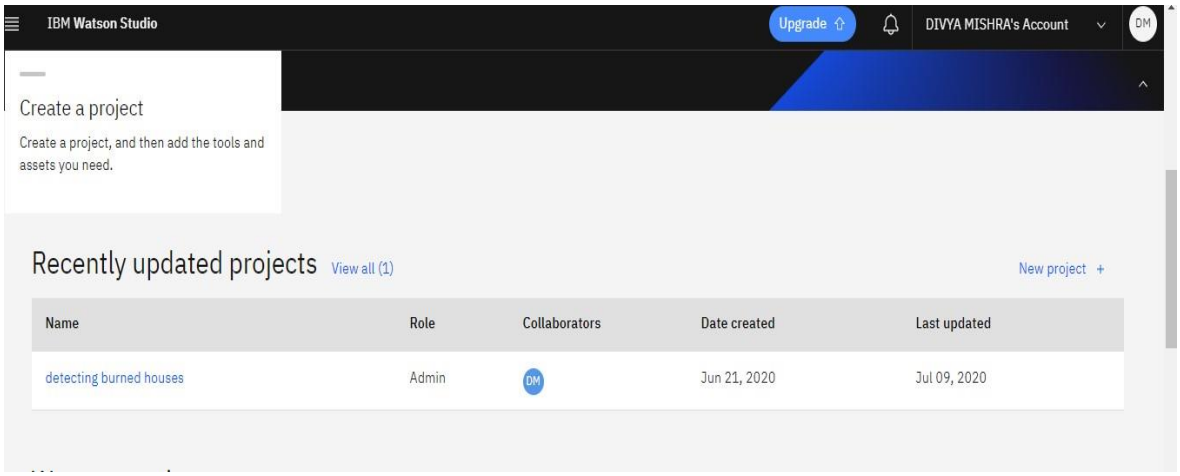
Step 4: Create **service .**

Step 5 : Open **service** .

Go to **Dashboard** .Select **Services**. In that click on **Watson studio.**



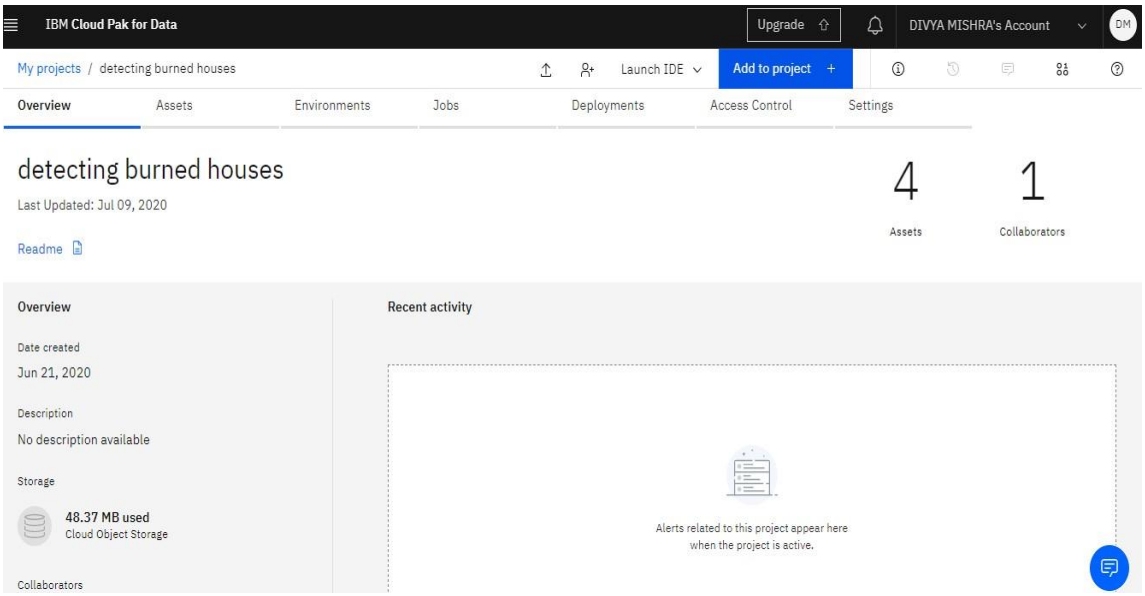
Step 6: Click on **Watson service**. Then click on **Get started** . Go to **Projects** . **Create a Project.**



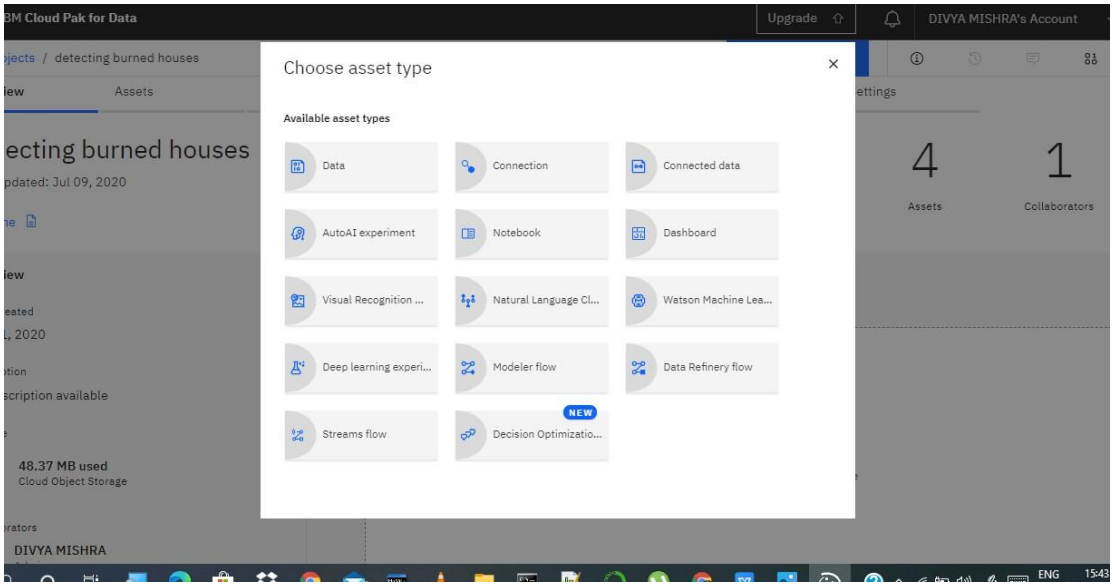
Task 3: Build Your Custom Model

Step 7: Click on Project created like we created here **“ detecting burned homes ”.**

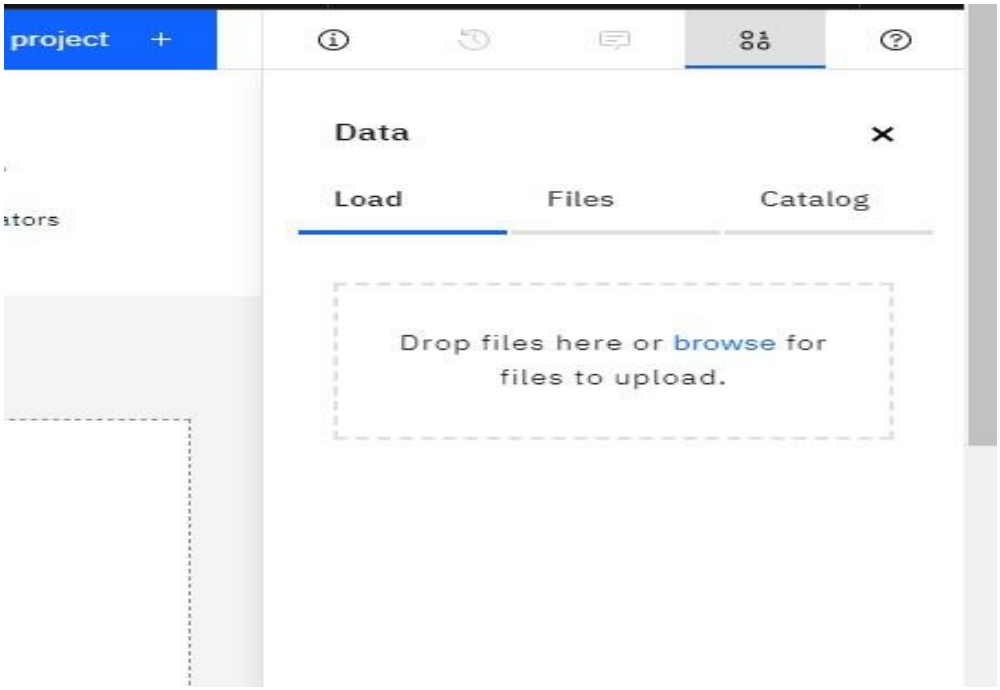
Go to **Add to project.**



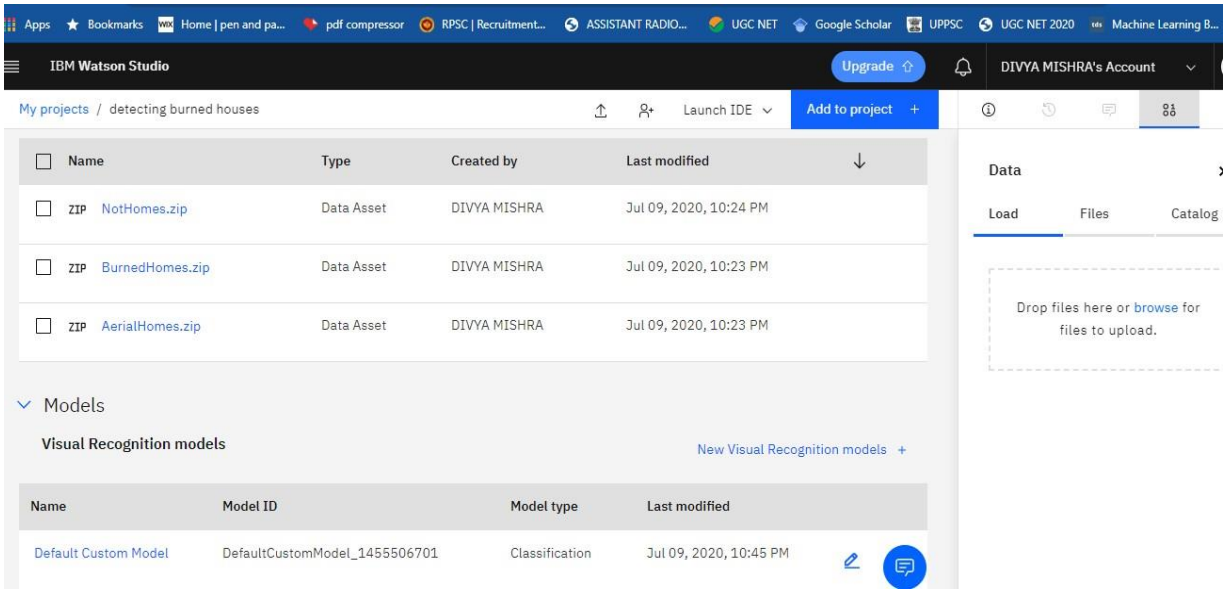
Step 8: In that to upload Dataset. Select **ASSETS** . in that select **data.**



Step 9: Upload data-set from **browse** .

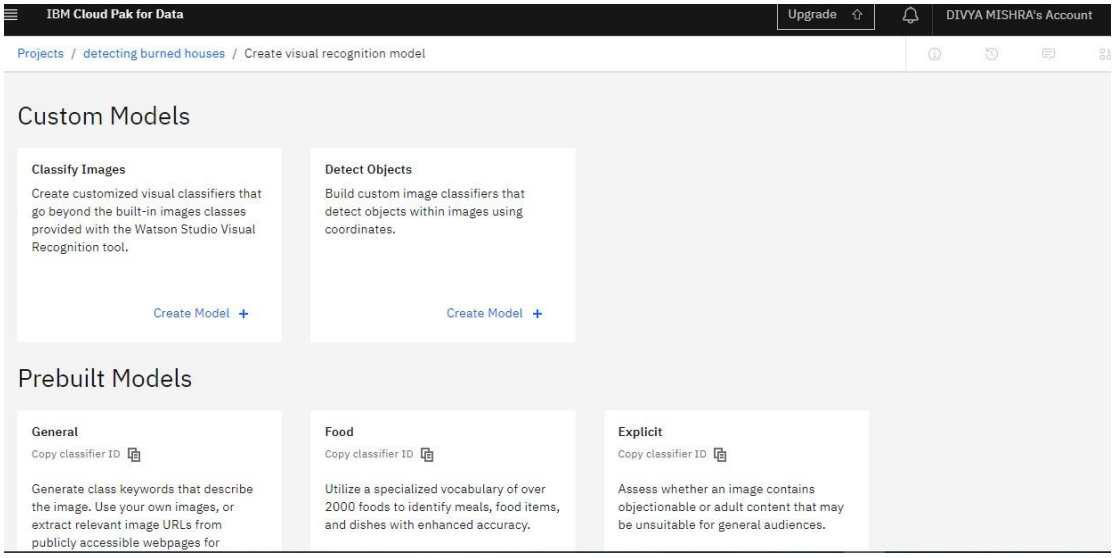


Step 10 : Wait to Data to get uploaded from selected computer location.

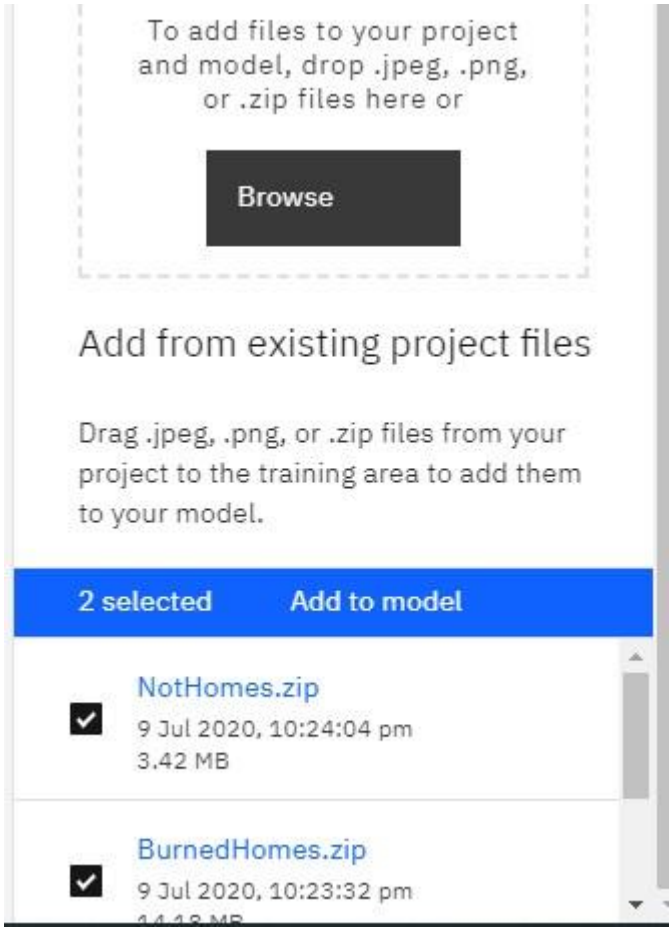


Step 11 : Again Go to **Add to Project** to select **Assets** . In that select **VISUAL RECOGNITION** .You will be redirected to page.

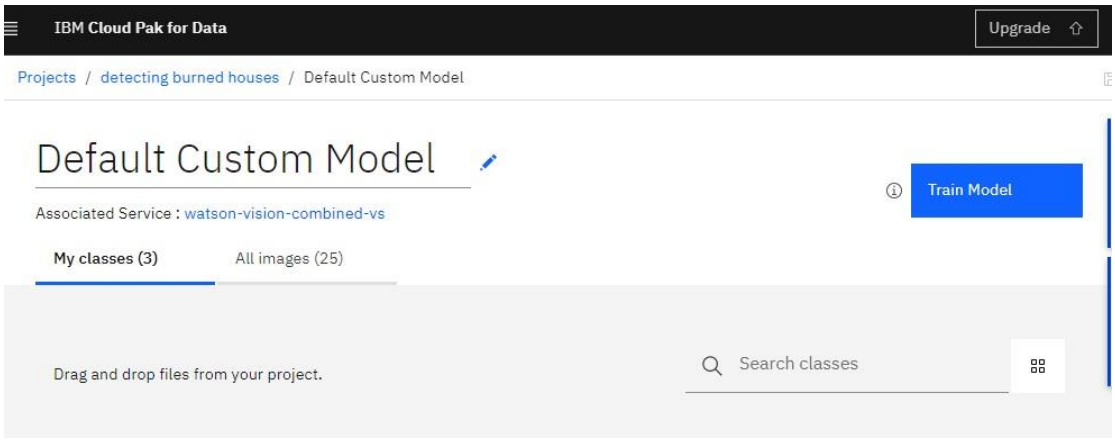
Select **Classifiy images** under **Custom models**. Since our target to predict classify of one of the three type of images.



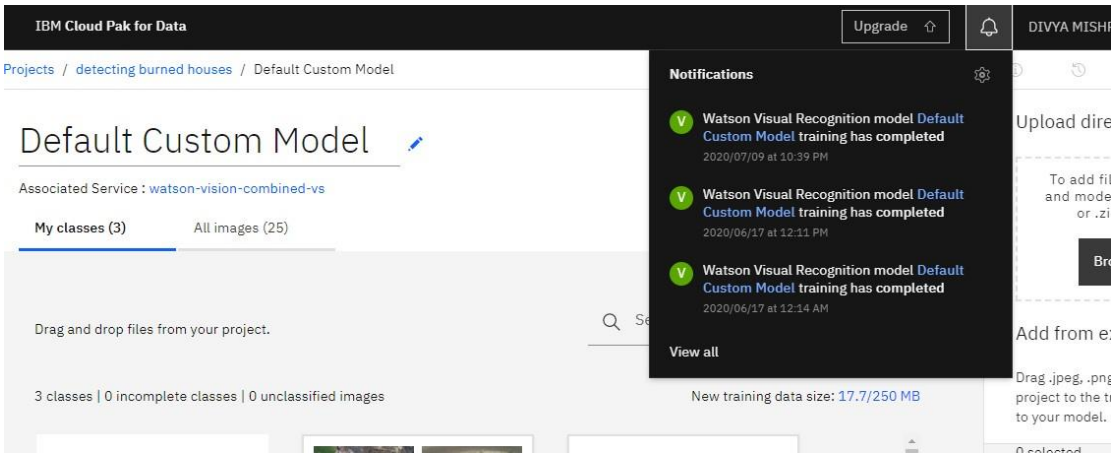
Step 12: Select Dataset to upload in training the model. Click on **Add to model.**



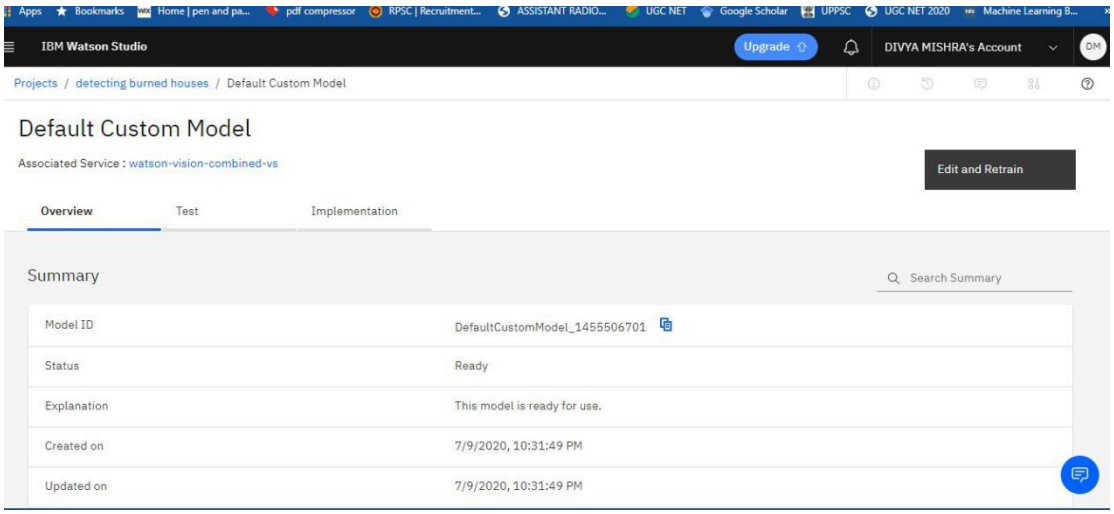
Step 12: After data is get uploaded , click on **train the model.**



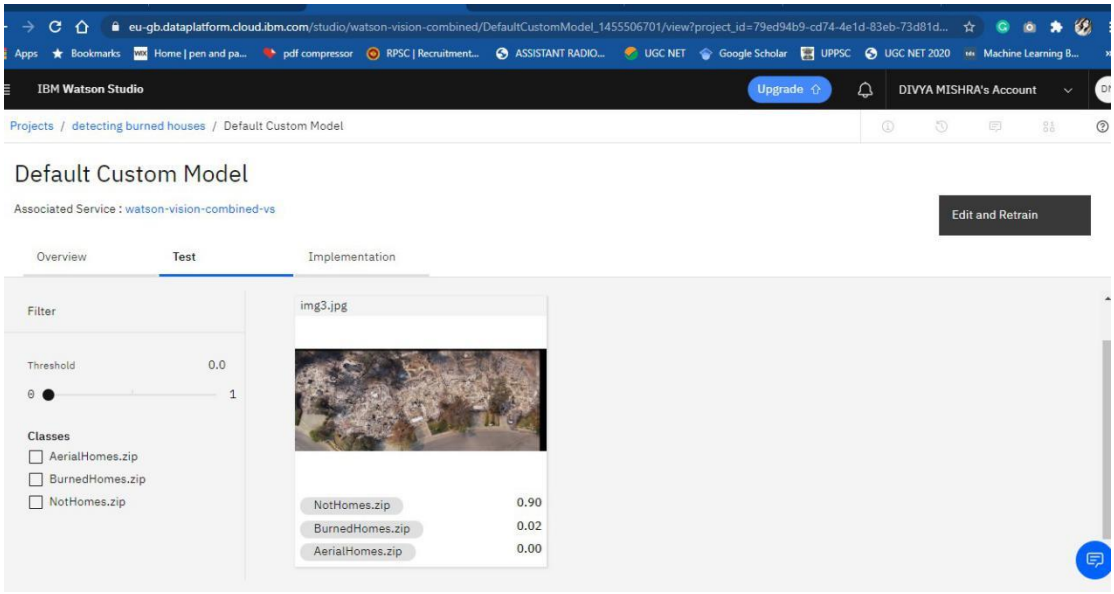
Step 13 : Wait the model to get trained till get notification to get trained,



Step 14 : Check model **overview.**



Step 15: Test the Model



Results :

The Model predicts the probability score of each of the class. The class with maximum score is the predicted to be the final class.