

## Sprint 2 – A Gesture Based Tool for Sterile Browsing of Radiology Images

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**Code:** Updated on GitHub in the Sprint-1 folder under Project Development Phase.

### **Description of USN and Screenshots:**

#### **USN-4:**

As a user, I can upload an image of my hand that can be manipulated according to the classified gestures.

anirudh07's Account Home Help

**Step I: Access Webcam**  
Click the checkbox below to enable the application to access your camera.

☐ Allow this application to access my camera

**Step II: Upload Image**  
Upload an image from your computer to the application by clicking on the 'Choose File' button below.

Choose File Olli-Car-Photo.jpeg

Predict!

#### **USN-5:**

As a user, I can access my webcam for gesture classification.

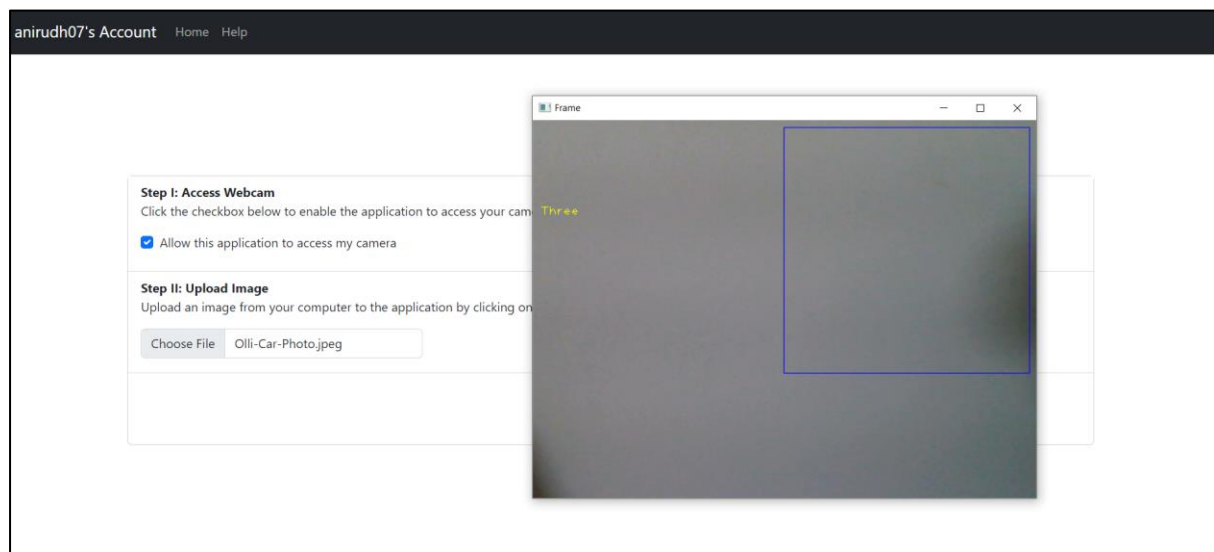
**Step I: Access Webcam**  
Click the checkbox below to enable the application to access your camera.

☒ Allow this application to access my camera

**Step II: Upload Image**  
Upload an image from your computer to the application by clicking on the 'Choose File' button below.

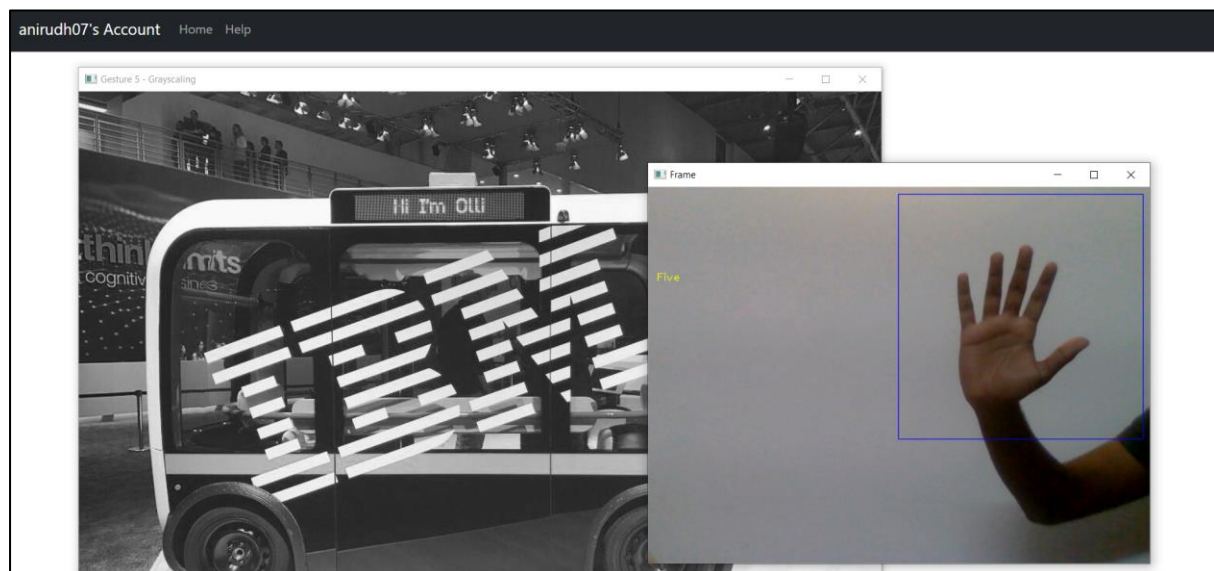
Choose File Olli-Car-Photo.jpeg

Predict!



## USN-6:

As a user, I can view my dashboard to see the classified gesture and corresponding change to the uploaded application.



## USN-7:

As a user, I need a Deep Learning model that can recognize hand gestures with a low error.

### *Deep Learning Model:*

- A convolutional neural network was deployed for gesture classification
- The CNN has 6 Hidden Layers:
  - Two sets of 2D convolution layers and max pooling layers
  - Flatten Layer
  - Dense Layer
- Image Data Generators were used to augment images for training and testing

```
✓ [53] print("Accuracy: ", acc)
      Accuracy:  0.9333333373069763

✓ [54] print("Loss: ", loss)
      Loss:  0.8366926908493042
```