CSI4133
Project Part B: Recognition in Live Video

<mark>CHOOSE ONE PROJECTS TO COMPLETE</mark>

Project 1 – Gesture Recognition

Goal:
Create a method to detect hand gestures in a video.

Idea:
- Capture live video.
- Hand detection and tracking:
  - Same as Part A
- Gesture detection
  - Chose hand gestures you would like to recognize (e.g. wave hand).
  - You must detect at least 5 gestures.
  - You can also try detecting sign language letters.
- Draw a string of characters representing the gestures in the frame.
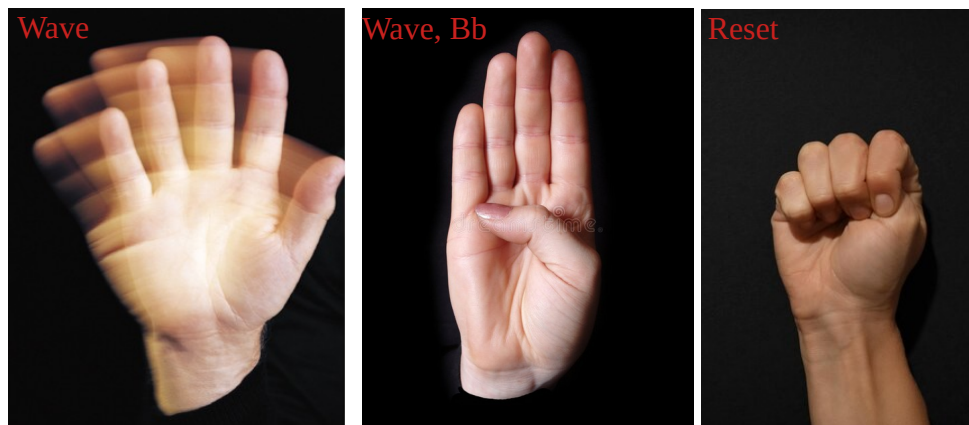- Visualize the result. The resulting videos need to be generated and saved.

Figure 1. In this example the user writes to the screen "Wave" then "Bb," then resets the string

Project 2 – Emotion Recognition

Goal:
Create a method to detect emotions in a video.

Idea:
- Capture live video.
- Face detection
  - Similar to Part A
- Emotion detection
  - Chose emotions you would like to recognize (e.g. happy, sad, neutral).
  - You must detect at least 5 emotions.
- Draw text of emotion to frame.
- Visualize the result. The resulting videos need to be generated and saved.

Figure 2. Examples of possible emotions to detect

Presentation:
- Present your project during the lab
- Live demonstration

Submission:
1. Lab report.
    i. Describe every step of your method.
    ii. Give detailed explanations for important steps.
2. Python code. If you use external source code, it needs to be properly referenced.
3. Resulting videos.

Submission due date is <mark>November 29th, at 11:59pm</mark>