Project Description: Hand Gesture Classification Using MediaPipe Landmarks from the HaGRID Dataset

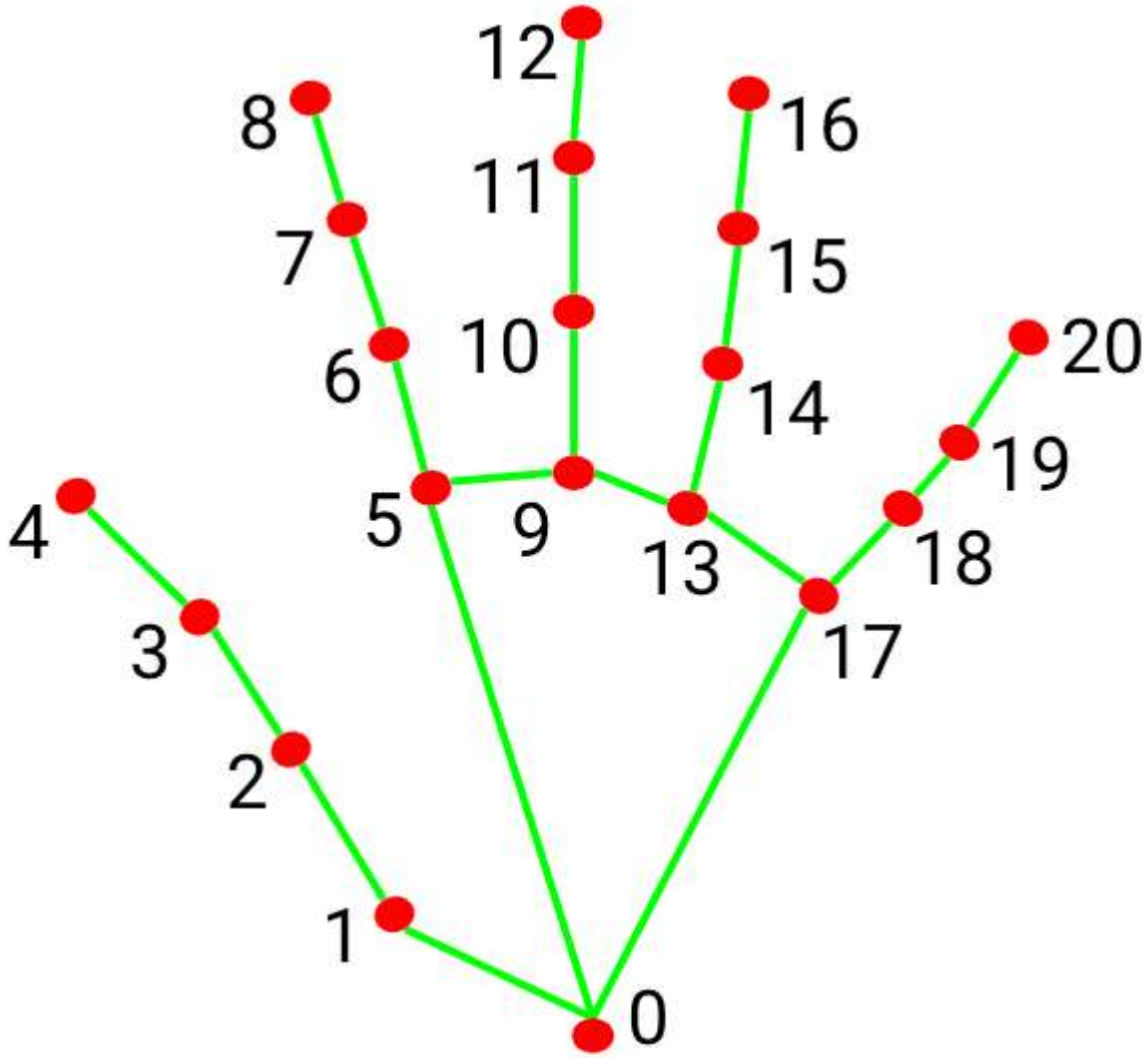
Overview:

In this project, we will work on classifying hand gestures using landmark data generated by **MediaPipe** from the **HaGRID (Hand Gesture Recognition Image Dataset)**.
The input to the project is a **CSV file** containing hand landmarks (e.g., x, y, z coordinates of keypoints) extracted from the HaGRID dataset using MediaPipe. The output will be a trained machine learning model capable of classifying hand gestures into predefined classes.

Dataset Details:

The **HaGRID dataset** contains 18 classes of hand gestures, including:

Each gesture is represented by a set of hand landmarks (21 landmarks per hand) extracted using MediaPipe. The CSV file will contain these landmarks(x,y,z location) along with their corresponding gesture labels.



Notes:

- The detected hands have different scales and positions in the image. To overcome this problem recentre the hand landmarks (x, y) to make the origin the wrist point and divide all the landmarks by the mid-fingertip position.
With that all the detected hands will be similar in training and testing data.
z location doesn’t need to be processed as it is already processed.