**PROBLEM STATEMENT:**

In this project we are attempting to classify the various emojis, into one of the 11 gestures fed as dataset as we take the input via the webcam, where it sees the hand gestures we make and infer the results within the limits of the errors.

**CRITICAL STEPS/ALGORITHM(STEPS CARRIED OUT):**

This problem was basically broken down into three main sub problems:-

1. Creating the model.
2. First, you have to create a gesture database. For that, run CreateGest.py. Enter the gesture name and you will get 2 frames displayed. Look at the contour frame and adjust your hand to make sure that you capture the features of your hand. Press 'c' for capturing the images. It will take 1200 images of one gesture. Try moving your hand a little within the frame to make sure that your model doesn't overfit at the time of training.
3. Repeat this for all the features you want.
4. Training the model using the dataset we provide.
5. Testing the model to predict and check the outcome. Run the program to see the model via webcam.

The following steps are carried out in order in the file emojinator.py

**FUNCTIONALITIES:**

1. Filters to detect hand.
2. CNN for training the model.

**PYTHON IMPLEMENTATION:**

1. Network Used- Convolutional Neural Network

**RESULTS**:

Entailed in the project results.

**CONCLUSION:**

The computer is able to successfully predict the hand movements from the webcam into one of the gestures fed to it during it’s training phase as a part of Supervised Machine Learning.