

Project Report

As part of SmartHome Gesture Control Application Part2, this application determines specific gesture of provided gesture videos using trained CNN model.

The flow of this project is provided below.

1. Training set from part 1 is used to prepare a feature vector set for all videos
 - a. Extracts middle frame for each video
 - b. Extract feature vector for middle frame image using provided cnn model
 - c. Consolidates all the vectors set along with their gesture
2. Test data gesture videos gesture will be determined using cosign the testing data vectors
 - a. Extract middle frame for each test video
 - b. Extract feature vector for middle frame image using provided cnn model
 - c. Apply Cosign similarity against testing vector set and determine a vector which has minimum cosign difference
 - d. Write output label of that vector fed into Results.csv file

This project needs knowledge of python, cv library and tensorflow. The machine learning algorithm used in this application seems to be simple – supervised classification but I gain a lot practice on python and tensorflow. As a python beginner, it is challenging but very helpful experience. The shared reference available in Slack channel helped me a lot.