SmartHome Gesture Control Application

CSE 535 Project 2

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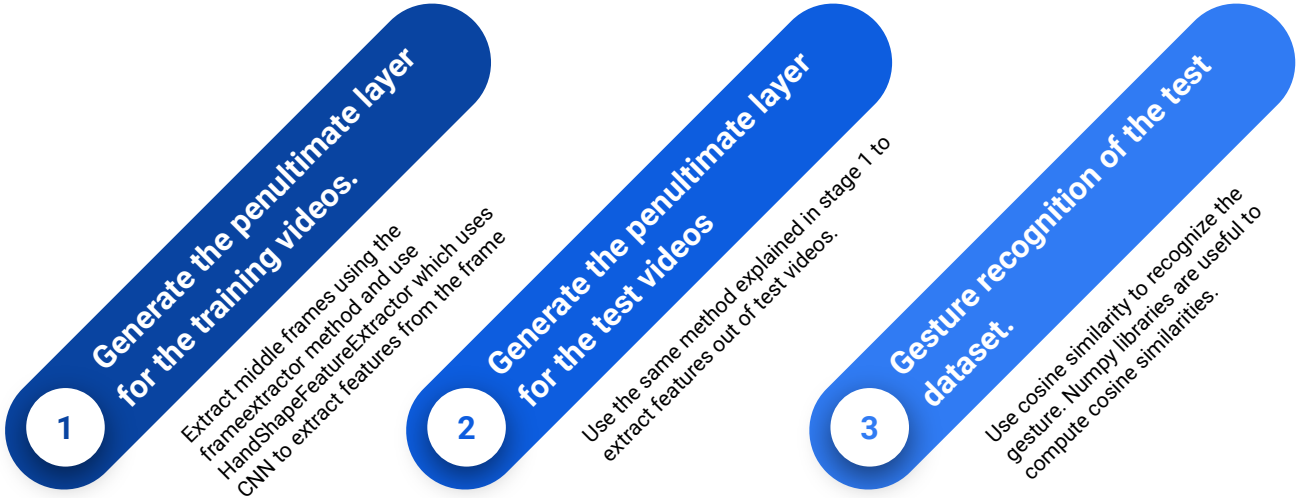
Problem Statement

To develop python application for extracting the middle frame of the 51 pre captured videos and train the CNN model. Cosine Similarity should be used to recognize gesture from the trained frame and test frame.

Technology Requirements

- Python
- TensorFlow
- OpenCV
- Keras

Approach Taken



Solution

Output results.csv file with gesture recognized labels of the test videos. This is achieved using cosine similarity and using the highest match label. Numpy libraries are used to develop the cosine similarity formula mentioned below:

Cosine Similarity = $(A \cdot B) / (\|A\|\|B\|)$