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SmartHome Gesture Control Application Project Part 2 Report

My approach to classifying different hand gestures used a CNN-based feature extraction method. First, the middle frames from both training and test videos were extracted and saved to separate folders. Second, feature vectors were extracted from each middle frame using a pre-trained CNN model originally designed for alphabet gesture recognition. Third, cosine similarity was computed between the test feature vector and all training feature vectors with their corresponding gesture labels. The training vector with the highest cosine similarity to the test vector determined the predicted gesture class. Finally, all predicted gesture labels were saved to Results.csv.