Light-Weight Deep Learning Model for Human

Action Recognition in Videos

Human Action Recognition (HAR) from a visual stream has recently attained much researcher consideration in the domain of computer vision. Due to its large applications like monitoring of health, home automation, and teleimmersion, among others. However, it still faces human variances, occlusion, lighting changes, and complicated backgrounds. The evaluation criteria rely on the features collection approach as well as learning data being performed correctly. The success of Deep Learning (DL) has resulted in a variety of impressive outcomes, including neural networks. Nonetheless, a robust features vector is required for an efficient classifier to give the class label. Features serve as the essential component of any data set. Indeed, feature extraction may affect the algorithm's performance and computational cost. For this research framework, we used pre-trained deep learning models VGG19, Dense Net and Efficient Net for feature extraction from the sequence of images and classified each action with the help of the SoftMax layer. UCF50 action dataset used, which contains 50 sections and evaluates performance with the help of precision, recall, f1-score and AUC score. Testing accuracy from models achieved VGG19- 90.11, DenseNet-92,57 and EfiicientNet-94.25