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Real Time Multi Person Action Recognition Using Pose Estimates

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Abstract : Human activity recognition is an important aspect of video analytics, and many approaches have been recommended to enable action recognition. In this approach, the model is used to identify the action of the multiple people in the frame and classify them accordingly. A few approaches use RNNs and 3D CNNs, which are computationally expensive and cannot be trained with the small datasets which are currently available. Multi-person action recognition has been performed in order to understand the positions and action of people present in the video frame. The size of the video frame can be adjusted as a hyper-parameter depending on the hardware resources available. OpenPose has been used to calculate pose estimate using CNN to produce heap-maps, one of which provides skeleton features, which are basically joint features. The features are then extracted, and a classification algorithm can be applied to classify the action.

Keywords : human activity recognition, computer vision, pose estimates, convolutional neural networks
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