CMPE 258: Deep Learning Project Proposal

Real-time Yoga Pose Identification

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Abstract:

In day to day life, one must exercise to remain fit. Many physical trainings have been benefitted immensely from leveraging Artificial Intelligence. However, Yoga remains relatively less explored. So, goal of our project is to recognize the yoga poses to help in self-training. This project will help people to practice different yoga poses correctly.

This project will help people to practice different yoga poses and it gives feedback about correct yoga postures at their comfort at home without signing up expensive yoga classes. So, this project would be ideal for beginners to do yoga practice at very less expenses and with saving their travel time, money and effort.

The input to our algorithm would be a video of a person doing yoga which is run through CMU's Open Source tool for pose recognition OpenPose to get the features like key points in human body from a video movement.

Using these features, we will train convolutional neural network (CNN) to identify correct Yoga Pose. We are planning to evaluate the model using the standard PCK (Percentage of Correct Keypoints) measure on our dataset. We are planning to implement the model in TPU.

As a final output, the user can get feedback about his/her correct Yoga posture and poses.