Yoga Posture Detection and Correction System

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Abstract: *Humans, by nature, are sensitive to a wide range of health problems. Yoga can help you improve your body for the better. Although there are many benefits of exercising, doing so incorrectly can lead to a dangerous lifestyle. As a result, proper instruction is required for people who are completing activities on their own. With the right direction, a person can reach several benefits from activities while also improving his or her health. Activities such as meditation and breathing techniques are very important to increase the mental as well as physical well-being of a person by doing asana. These days, Yoga is very popular around the globe. Many people are using self-learning platforms like TV or Videos. Some people also practice it by teaching to one another. However, it is not easy for beginners for finding the inaccurate parts of their Yoga poses by themselves. Hence, a Yoga posture detection and correction system is designed by us. In our paper, first, a Yoga pose assessment method using improved Machine Learning algorithms for pose detection is proposed by us for helping the self-learning of Yoga[19][23]. Using the system, the user is under real time supervision. User's pose is compared with the pose in the pre-trained dataset and the difference is calculated between angles of body joints. As a result, the yoga pose is correctly detected. Second, according to the difference in angles the feedback will be provided to the user for improving the pose and doing it correctly. This application designed by us is evaluated on various Yoga postured under varying conditions. As a result, there is a guaranteed robustness.*

Keywords: Yoga pose recognition, Machine Learning, pre-trained Dataset.

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