**Yoga Pose Detection Using Deep Learning Techniques**

*S. Sankara Narayanan, Devendra Kumar Misra, Kartik Arora, Harsh Rai*

The goal of this research paper is to develop a software solution to help bridge the gap between the older methods of yoga that utilized a specialized guru to help instruct posture and the modern day which is often busy and challenging to find such a guru on one’s own time. In order to do this, the developers have utilized OpenPose to deploy advanced machine learning models and effectively predict a human’s pose and whether it properly adheres to the desired form of the given yoga pose.

**Yoga Trainer App using Human Pose Detection**

*Thoudam Johnson Singh, Boorish Kshetrimayum, Heman Budathoki, Chelsea Dambe R Sangma*

The goal of this research paper was to develop a user-friendly yoga pose detection application that inspires users to pursue yoga further through the use of machine learning technologies and a modern mobile interface. The app attempts to learn from the various market solutions and improve on their weaknesses, such as improved stance detection in real time, through the use of modern machine learning models created in the Machine Learning Kit by Google.

**Deep Learning-Based Yoga Posture Recognition Using the Y\_PN-MSSD Model for Yoga Practitioners**

*Aman Upadhyay, Niha Kamal Basha, Balasundaram Ananthakrishnan*

This research paper outlines the needs for Yoga posture recognition software as there are minimal options for live tracking of poses to help reduce injuries and presents a capable solution. In the paper, the authors created a machine learning model by using a combination of Pose-Net and Mobile-Net SSD in order to handle the detection of the human and of feature points. This combination of models has allowed the authors to create a more effective model that outperforms the popular Pose-Net CNN model.

**Yoga Pose Estimation Github Repo**

*Sai Durga Kamesh Kota*

The Yoga Pose Estimation repo is an excellent example of a similar project in the field of yoga pose detection and analysis using machine learning. This application is well documented and made available for public use on the github repo. The app uses posenet and a KNN Classifier in order to detect the user’s poses and has been trained with a custom dataset of three poses in the form of 3 videos. This is an excellent open source solution which allows for other users to interact with it and submit improvements via github.

**Down Dog App**

*Down Dog Team*

The Down Dog App is a commercial solution through the form of a mobile app on the Apple and Google Play stores. This app uses machine learning to track the form of the user and analyze how accurately they are following the provided pose. This app is a good solution for the masses who are not technically savvy enough to use an app from a github repo and would rather use a fully developed mobile application that is easy and they can open anywhere. Although the techniques and models are not disclosed on the app’s website, it is clear from their demonstration videos that machine learning is being used to detect the key points on a users body and predict how accurate they are in following the various poses.

Works Cited

Yoga Pose Detection Using Deep Learning Techniques:

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Yoga Trainer App using Human Pose Detection

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Deep Learning-Based Yoga Posture Recognition Using the Y\_PN-MSSD Model for Yoga Practitioners

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Yoga Pose Estimation Github Repo

<https://github.com/Devtown-India/Yoga-Pose-Estimation-App>

Down Dog App

<https://www.downdogapp.com/>