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Survey on Yogic Posture Recognition using Deep Learning

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Abstract: *The abstract emphasizes the growing importance of yoga pose detection, especially in integrating technology into yoga practice. It highlights the various benefits of yoga, such as physical health, mental well-being, and stress reduction. The paper discusses the significance of automated yoga pose detection in providing real-time feedback and enhancing self-correction. The research explores different approaches to yoga pose classification, focusing on PoseNet and KNN classifier. Using deep learning algorithms and computer vision techniques like Open Pose, human pose estimation is employed to identify yoga postures. A combination of CNN and LSTM is utilized for real-time yoga pose recognition from monitored videos. Existing techniques for yoga pose recognition often fail in real-world situations, prompting the need for more efficient methods. The paper presents a computationally efficient approach using deep learning for yoga pose recognition in complex environments. Artificial intelligence is proposed as a substitute for yoga instructors, assisting individuals with their poses. The paper introduces algorithms for creating skeletons of yoga poses and hand mudras, extracting joint angles as features for machine learning and deep learning models. Furthermore, deep learning techniques are developed to detect incorrect yoga postures, enabling users to upload recorded videos for analysis. The system advises users on improving their poses by identifying abnormal angles between the actual and desired poses.*

Keywords: Classification, Deep learning, Yoga pose Recognition, Computer Vision

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