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# An Routine Assistant Based on Artificial Intelligence for Fitness

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## I. INTRODUCTION

Human pose estimation is a challenging problem in the discipline of computer vision. To automatically detect a person's pose in an image is a difficult task as it depends upon a number of aspects such as scale and resolution of the image, illumination variation, background clutter, clothing variations, surroundings and the interaction of humans with the surroundings.

## II. AIM

Humans, by nature, are sensitive to a wide range of health problems, of which musculoskeletal disorders are an essential area that requires immediate treatment. Every year, a large number of people are affected by musculoskeletal disorders as a result of accidents or aging. Yoga can help you improve your body for the better. Although there are many benefits to exercising, doing so incorrectly can lead to a dangerous lifestyle. As a result, proper instruction is required for persons who are completing activities on their own. With the right direction, a person can reap several benefits from activities while also improving his or her health. Yoga postures help to develop awareness, harmony, and strength in both the mind and the body. Improper yoga postures, on the other hand, can result in catastrophic complications such as strokes and nerve damage.

## III. LITERATURE SURVEY

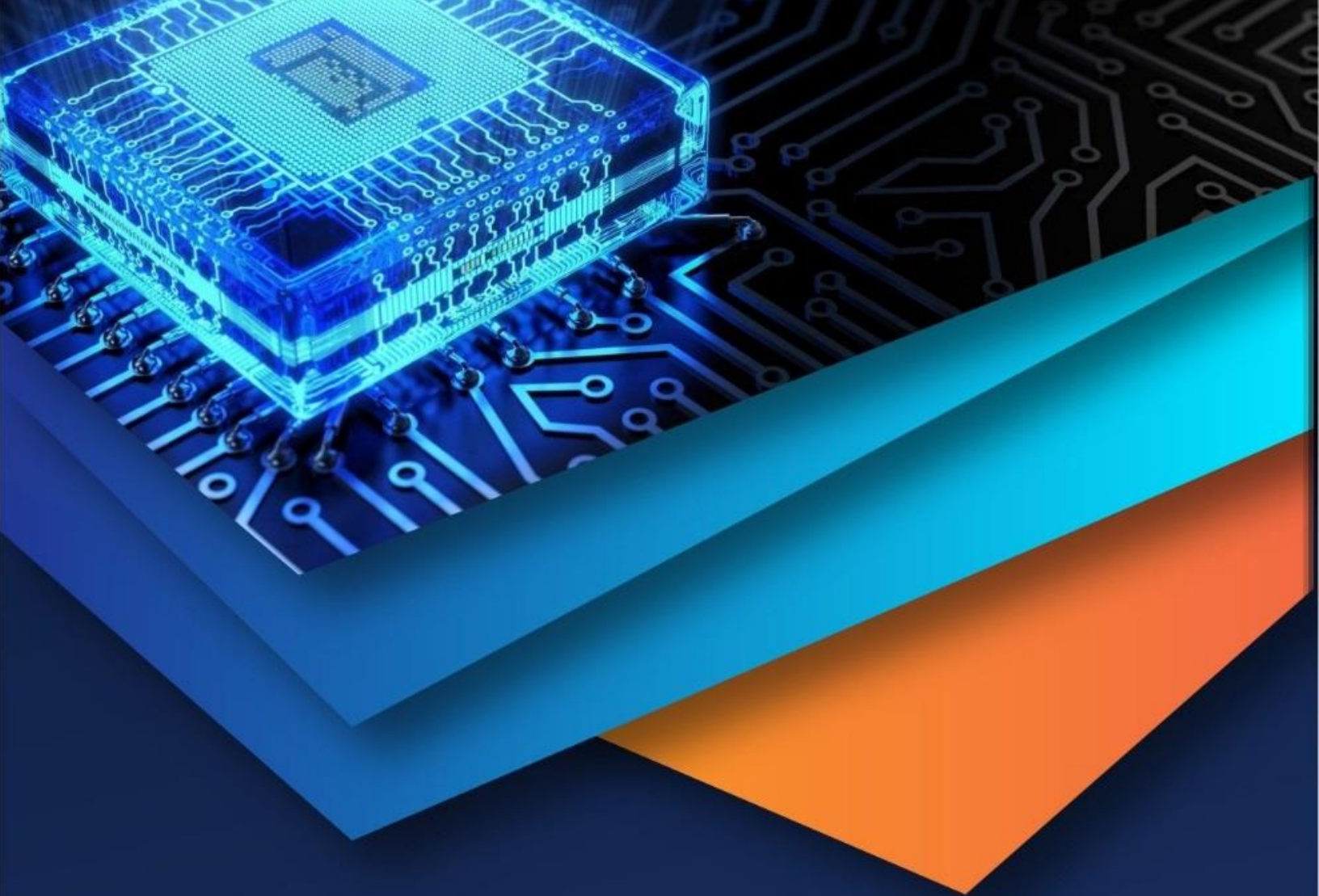
In recent years, yoga has become part of life for many people across the world. Due to this there is the need for scientific analysis of my postures. It has been observed that pose detection techniques can be used to identify the postures and also to assist the people to perform yoga more accurately. Recognition of posture is a challenging task due to the lack of availability of dataset and also to detect posture on real-time bases. There are a number of yoga asanas and hence creating a pose estimation model that can be successful for all the asanas is a challenging problem. In this study a balanced dataset, considering the healthcare data of 36,880 IS patients and non-IS patients matched with IS patients using indexed date, age and sex, retrieved from a subset of the National Health Insurance Research Database (NHIRD) of Taiwan.

## IV. CONCLUSION

Nowadays our life is becoming busier and we hardly find time in our schedules to be healthy and fit and exercise daily. This has caused many diseases and health issues. Implementation of Artificial Intelligence in the field of fitness can solve many problems. The health-related applications and devices are making our lives easier and eases our fitness journey. Individuals can use this application in their own workouts, hence making them more efficient and less error-prone. In this process, we learnt how to use the OpenCV library and package and how the application of machine learning can be beneficial to humans. The Project can be upgraded to support more exercises. A User interface can be added for easy navigation through the exercises. The data collected by the AI trainer can be saved and processed for the next sessions. Daily steps tracker can also be added. The trainer will suggest your workout plan and its intensity according to your body type and weight.

## REFERENCES

- [1] V. Akuthota and S. F. Nedler, "Core Strengthening," American Academy of Physical Medicine and Rehabilitation, 2004.
- [2] R. Szeliski, "Computer Vision: Algorithms and Applications," Springer, 2010.
- [3] G. Bradski and A. Kaehler, "Learning OpenCV," O'Reilly, 2008.
- [4] M. C. Thar, K. Z. N. Winn and N. Funabiki, "A Proposal of Yoga Pose Assessment Method Using Pose Detection for Self-Learning," University of Information Technology Okayama University.
- [5] For More Information at : <https://www.ijert.org/ai-based-workout-assistant-and-fitness-guide>
- [6] S. K. Yadav, A. Singh, A. Gupta and J. L. Raheja, "Real-time Yoga recognition using deep learning," Springer-Verlag London Ltd., 2019.



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