



An Routine Assistant Based on Artificial Intelligence for Fitness

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ABSTRACT

Nowadays virtual assistant is playing a very important role in our daily activities and has become an inseparable part of our lives. As per the Clutch survey report that was published in 2019, almost 27 performing their day-to-day activities. AI is an emerging field that we aim to explore through this project of AI-based workout assistants. In our work, we introduce Fitcercise, an application that detects the user's exercise pose counts the specified exercise repetitions and provides personalized, detailed recommendations on how the user can improve their form. The application uses the MediaPipe to detect a person's pose, and afterwards analyses the geometry of the pose from the dataset and real-time video and counts the

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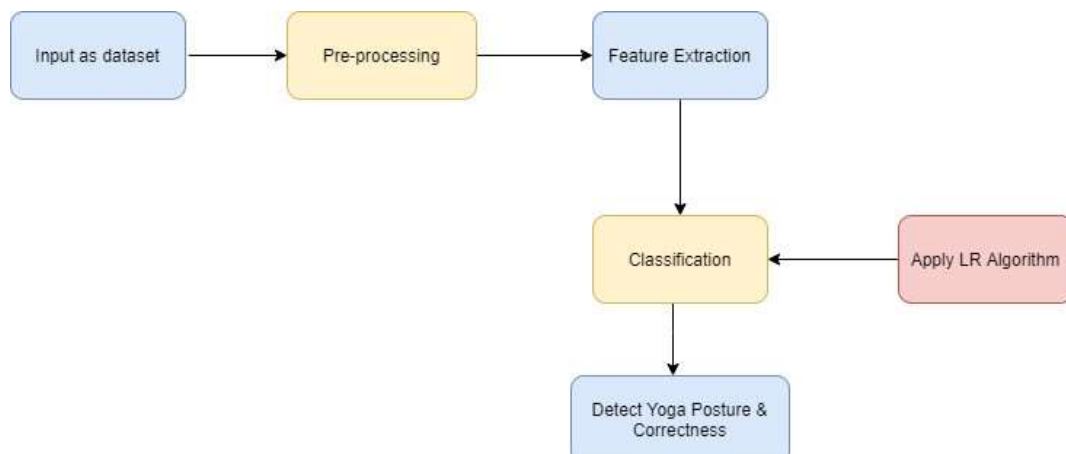
I. INTRODUCTION

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. 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.

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. SYSTEM DESIGN



1. In Data Flow Diagram, we Show that flow of data in our system in DFD0 we show that base DFD in which rectangle present input as well as output and circle show our system, In DFD1 we show actual input and actual output of system input of our system is text or image and output is rumour detected likewise in DFD 2 we present operation of user as well as admin.



Figure 4.2: Data Flow diagram

2. Unified Modelling Language is a standard language for writing software blueprints. The UML may be used to visualize,specify,construct and document the artifacts of a software intensive system is process independent, although optimally it should be used in process that is use case driven ,architecture-centric ,iterative ,and incremental. The Number of UML Diagram is available.

3.

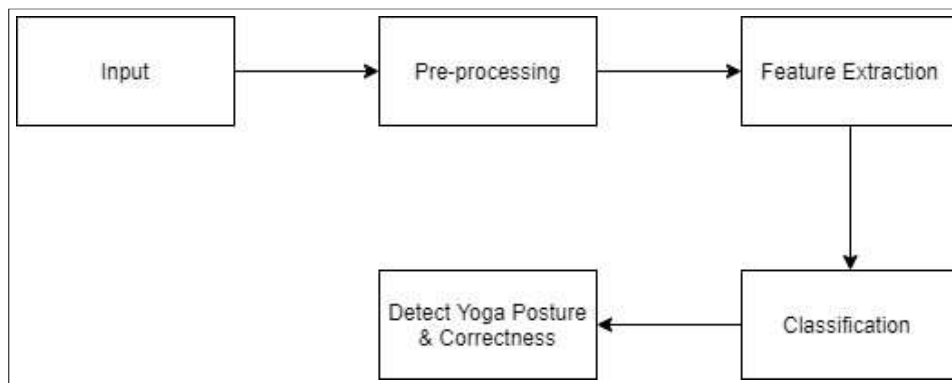
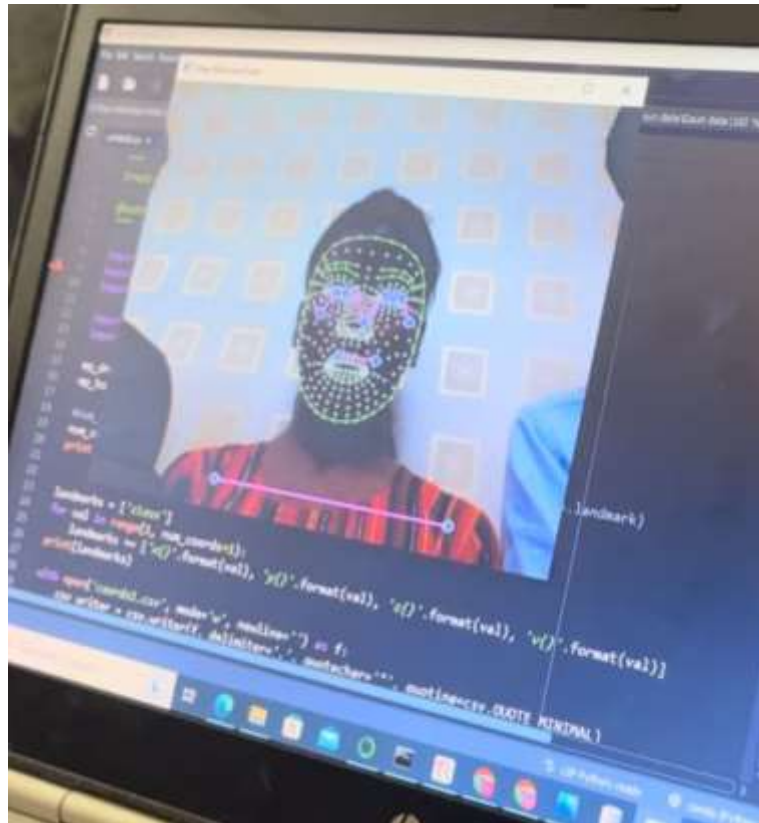


Figure 4.4: Data Flow diagram

IV. RESULTS



- Result for particular pose detection



➤ Capturing the key points for analysis

V. FUTURE SCOPE

It is used to bring harmony to both body and mind with the help of asana, meditation and various other breathing techniques It bring peace to the mind. Due to increase of stress in the modern lifestyle, yoga has become popular throughout the world. There are various ways through which one can learn yoga. Yoga can be learnt by attending classes at a yoga centre or through home tutoring. It can also be self-learnt with the help of books and videos. Most people prefer self-learning but it is hard for them to find incorrect parts of their work out assistant

VI. PROPS

1. Easy to handle
2. Improve Best accuracy.
3. Increase the knowledge about work out assistant
4. *to bring harmony to both body and mind with the help of asana, meditation and various other breathing techniques It bring peace to the mind. Due to increase of stress in the modern lifestyle, yoga has become popular throughout the world.*

VII. CONS

1. *If the training not get successful or get interrupt because of any reason then system cannot work proper.*
2. *If the accuracy of training less then system cannot work properly.*

VIII. 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 are 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 you work out plan and its intensity according to your body type and weight.

IX. REFERENCES

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