**GESTURE BASED INTERACTIVE YOGA AND FITNESS GUIDE**

Problem Statement

If COVID-19 has taught us anything, it is the use of digital devices to maintain our well-being inside our own homes. But If we do yoga at home, we don’t have proper guidance about our poses.

Proposed Solution:

My solution take this a step further by introducing a interactive interface that helps you to perform daily exercises and yoga at the comfort of your own home.

App Features:

* Gesture-based pose recognition tool will be designed for individuals who can't access fitness centers easily, such as the elderly.
* Using cameras, we can provide realtime feedback on users pose detection model.
* Provide the accuracy that results in better posture and effectiveness of the workouts provided.
* Adjusting workouts to fit individual fitness levels, which is crucial for safe and effective stamina building.
* The whole interface can be controlled via gestures,making it hands free,elevating user experience.
* Encourage regular workouts to keep up with your fitness journey.

Technology used:

**MediaPipe** : Utilized for pose detection, accurately identifying key points of the body during various yoga poses. By leveraging its pose detection capabilities, MediaPipe enabled real-time tracking and analysis of yoga practitioners movements, aiding in form correction and performance evaluation

**Flask:** Used as the backend framework to develop a web application for a hands-free, gesture-based yoga pose detection system. Through Flask, we created routes to handle webcam input, integrated with a pose detection model, and provided real-time feedback(by providing the asnas names) to users based on their yoga poses. This aimed to help users practice yoga seamlessly without the need for physical controllers or touch-based interfaces.

**OpenCV** : Used OpenCV, or cv2 in Python, is a powerful tool for computer vision tasks, including pose detection for yoga. By employing algorithms we have extracted key body points from live video feed of the user, aiding in pose recognition which enabled applications like real-time feedback on posture alignment, performance analysis, and even automated yoga instruction systems.

**HTML & CSS HTML**: organized the content and structure of the site, while CSS provided styling and layout enhancements, ensuring an aesthetically pleasing design. Together, they facilitated an intuitive and visually appealing platform.