DEVJAMS - GDSC
VIT'VELLORE

Team Geeks_square

POSTURE CORRECTION

HARIHARAN T
RISHEEPRIYA S

Problem Statement

One of the major problems faced by most people especially working people and students today is back pain. On pondering over it, the main reason is incorrect posture while sitting which has led to serious impacts damaging the postural mechanisms of the body. Other symptoms like rounded shoulders, muscle fatigue, etc are caused by incorrect posture. So here we are with a posture detection module, which would detect the posture and warn the user if their sitting portrait is incorrect.

Implementation:

- The implementation of this posture detection is done using the posenet module of python and Arduino.
- Capturing the real-time image using a camera and using the skeletal view of the person and detecting their angles at the hips we determine the posture of the person.
- If the posture is incorrect then we give Arduino the signal to alert the user

Tech Stack

- ARDUINO
- POSENET AND OpenCV USING PYTHON
- NEURAL NETWORKS
- DEEP LEARNING
- LEDs and BUZZERS

We use deep learning techniques of python using the posenet and OpenCV module and then use Arduino to alert the user

Benefits to society

People suffer a lot due to incorrect sitting postures, Specially the people in workplaces and schools or colleges have a great impact due to this. Basically, all those people will get benefited using this posture correction.

This would bring in a revolutionary change in the medical industry and the IT sector as well.

This idea requires a camera, Arduino for every single person, it is a one-one thing, so it is a bit costly but is a very good solution to back pain and other problems that occurs due to incorrect sitting posture.

Bibliography

https://www.analyticsvidhya.com/blog/2021/09/posture-detection-using-posenet-with-real-time-deep-learning-project/https://www.geeksforgeeks.org/posenet-pose-estimation/

https://pythonforundergradengineers.com/python-arduino-LED.html

https://jmablog.com/post/posenet-app/

THANKYOU