

Task 6 – ML Project

This project works to count the number of repetitions of an exercise that you perform. Mediapipe library is used together with OpenCV and Tensorflow to achieve this.

(screenshots at the end)

Getting Started

To get going you will need,

A web cam enabled laptop/desktop.

Python 3.10+

Installation

```
git clone https://github.com/NikhilKumar2444/Task-6.git
```

```
pip install -r requirements.txt
```

```
python main.py
```

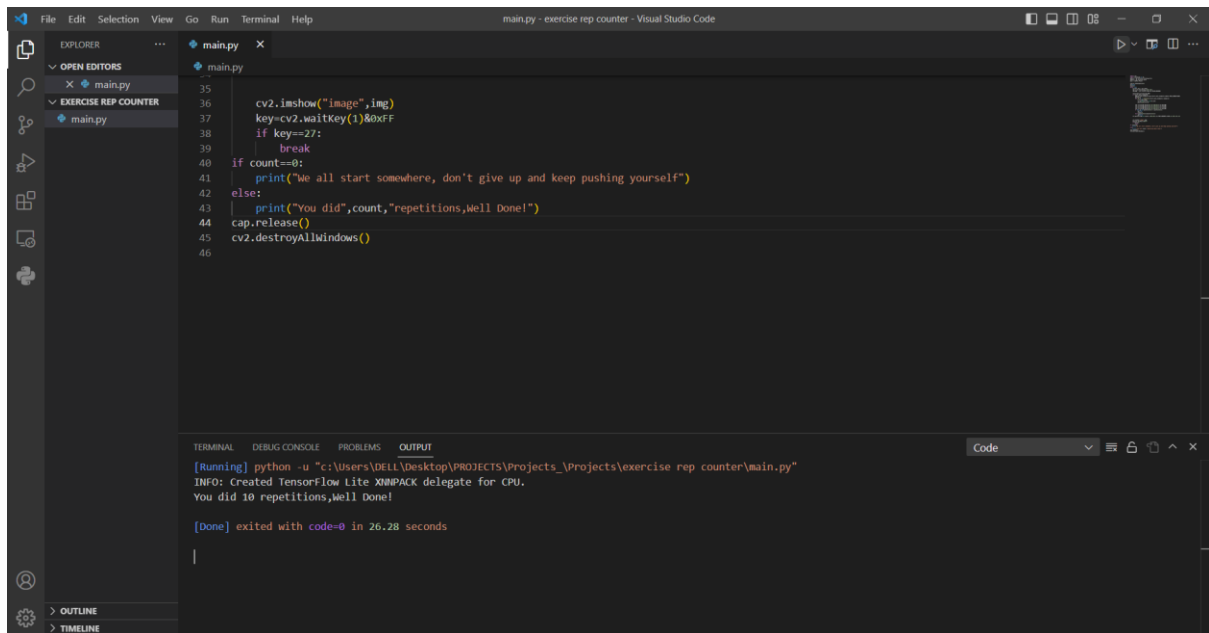
Usage

The program is designed to use a web camera and count the repetitions of the exercise “Lateral raise”. Web camera is used to “look” at the person performing the exercise and count repetition that is performed to the correct range of motion.

To use the counter follow these steps,

- 1) Stand such that both of your shoulders and elbows are in cameras field of view.
- 2) Start performing the exercise to its full range i.e., your elbow must reach the same level as your shoulders.
- 3) After your done with the exercise press “esc” to stop the program.

Outputs Screenshots



The screenshot shows the Visual Studio Code interface with a Python script named `main.py` open in the editor. The script is titled "EXERCISE REP COUNTER". The code in the script is as follows:

```
35
36 cv2.imshow("image",img)
37 key=cv2.waitKey(1)&0xFF
38 if key==27:
39     break
40 if count==0:
41     print("We all start somewhere, don't give up and keep pushing yourself")
42 else:
43     print("You did",count,"repetitions,Well Done!")
44 cap.release()
45 cv2.destroyAllWindows()
46
```

The terminal output at the bottom shows the script being executed with the following messages:

```
[Running] python -u "c:\Users\DELL\Desktop\PROJECTS\Projects\exercise rep counter\main.py"
INFO: Created TensorFlow Lite XNNPACK delegate for CPU.
You did 10 repetitions,Well Done!

[Done] exited with code=0 in 26.28 seconds
```

