NECK BENDING COUNTER

UNDER THE GUIDANCE OF

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IITK

SCRIPTING LANGUAGE - PYTHON

MEDIAPIPE

open-source framework for building computer pipelines to perform computer vision in inference over arbitrary. Sensory data such as audiovideo.

OPEN-CV

open source compwer vision library

FUNCTION

- IMAGE PROCESSING
- VIDEO PROCESSING
- OBJECT DETECTION

STEPS TO APPROACH THE PROJECT

STAGE - I   VIDEO FEEDING (MEDIAPIPE FEED)

STAGE - II   STEP-UP MEDIAPIPE INSTANCE

STAGE - III   EXTRACTING 33 LANDMARK (SKELETAL STRUCTURE OF BODY)

STAGE - IV   RENDER DETECTION (RENDER SKELETON JOINT)

STAGE - V

3 PRIMARY PARAMETERS

1.LEFT EAR

2.RIGHT EAR

3.NOSE

(CO-ORDINATES,ANGLE,A,B,C)

STAGE - VI

1.DETECT IMAGE

2.EXTRACT LANDMARKS

3.CO-ORDINATE --- ANGLE AND NECK BENDING

4.VISUALIZE ANGLE

5.RENDER DETECT

```
# CURL COUNTER LOGIC
IF ANGLE > 120 ;
    STAGE = RIGHT
IF ANGLE <30 AND STAGE
    =="RIGHT":
    STAGE="LEFT"
    COUNTER+=1;
PRINT ( "NO. OF NECK BENDING
    MOVE",(COUNTER)/2)
SHOW THE RESULT AND OUTPUT
```
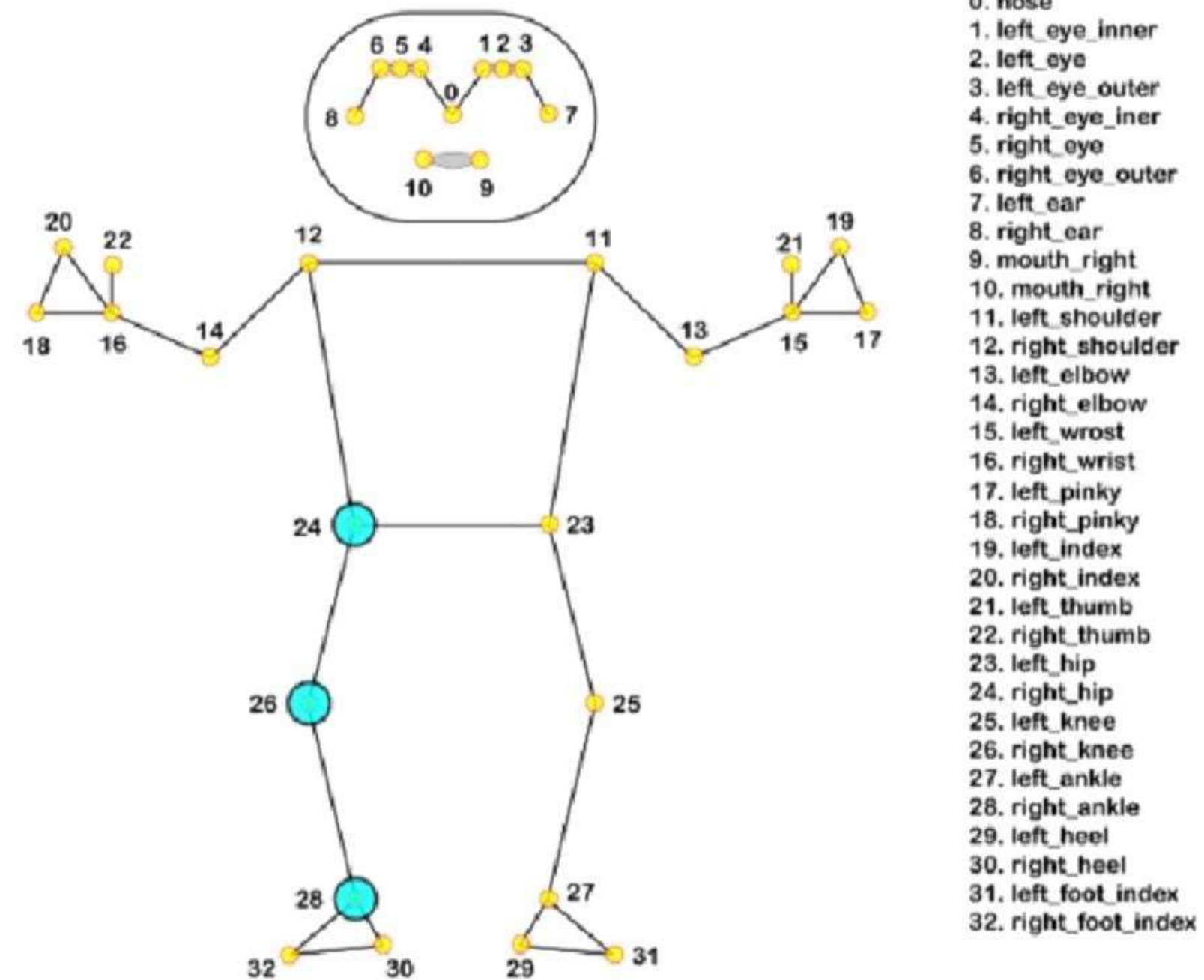
33 POSES LANDMARK DETECTION

0. nose
1. left_eye_inner
2. left_eye
3. left_eye_outer
4. right_eye_iner
5. right_eye
6. right_eye_outer
7. left_ear
8. right_ear
9. mouth_right
10. mouth_right
11. left_shoulder
12. right_shoulder
13. left_elbow
14. right_elbow
15. left_wrost
16. right_wrist
17. left_pinky
18. right_pinky
19. left_index
20. right_index
21. left_thumb
22. right_thumb
23. left_hip
24. right_hip
25. left_knee
26. right_knee
27. left_ankle
28. right_ankle
29. left_heel
30. right_heel
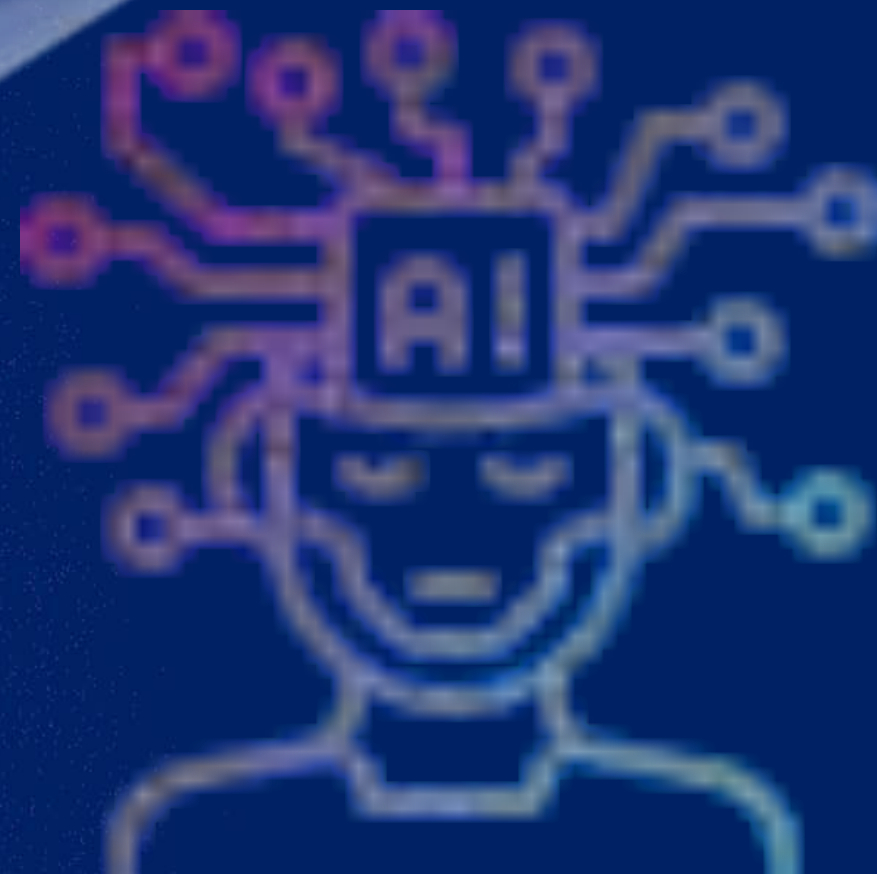31. left_foot_index
32. right_foot_index

APPLICATIONS

- POSTURE CORRECTION
- NECK PAIN RELIEF
- ENCHANCE SPORTS MANAGEMENT

DISCUSSSION

THANK YOU!