

Curl Counter: Real-time Pose Detection

Project Overview:

- Goal: Real-time Curl Counter using Pose Detection.
- Description:
 - Utilizes computer vision techniques for counting reps during a curl exercise.
 - Captures video frames using OpenCV (cv2) and performs pose detection via MediaPipe.
 - Determines curl movement based on calculated angles and stages (up or down) in real-time.



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Technologies Used:

- Libraries:
 - OpenCV (cv2): For video capture and image processing.
 - MediaPipe: For pose estimation and landmark extraction.

Key Features:

- Real-time pose detection and landmark extraction.
- Angle calculation for recognizing curl movements.
- Dynamic counting of reps and stage identification.

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Challenges Faced and Solutions Implemented:

- Challenges:
 - Accuracy in pose detection and angle calculation.
- Solutions:
 - Implementing threshold-based logic for stage determination.
 - Fine-tuning parameters to improve accuracy.

Potential Enhancements:

- Improved accuracy in counting curls.
- Integration with a workout tracking system.
- Enhanced visualization of curl stages.

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Conclusion:

- Significance: Real-time Curl Counter leveraging pose detection technology.
- Potential Applications: Fitness tracking, rehabilitation support, etc.