

Here's the explanation for the requested points:

a) The model you used and why

I used MediaPipe's Pose model because it provides real-time, accurate 2D pose estimation with a lightweight architecture, making it suitable for efficiently processing video frames. Its robust performance across various human poses makes it ideal for analyzing motion in sports activities.

b) The metric you computed

I computed the arm angles by measuring the angle formed at the elbow using the shoulder-elbow and elbow-wrist segments as vectors.

To calculate the arm angles, I first extracted the 2D coordinates of the shoulder, elbow, and wrist landmarks for both arms using MediaPipe's pose estimation. I then used the cosine rule to compute the angle formed at the elbow by treating the shoulder-elbow and elbow-wrist segments as vectors. The resulting angles were then overlaid on the images for visualization.

c) The numeric result

The left arm angle decreased from approximately 170° to 105° during the golf swing.

d) Your brief interpretation

The decreasing arm angle indicates the golfer's arm bending during the downswing, which is a critical motion for generating power and maintaining control in the golf swing.