

AthleteRise – AI-Powered Cricket Analytics

Assignment: Cover Drive Analysis from YouTube Video

Objective

Develop a Python script that analyzes a cricket cover drive from a YouTube video using pose estimation, evaluates biomechanical parameters, and generates visual/textual feedback.

Video to Analyze

<https://youtube.com/shorts/vSX3lRxGnNY>

Your Task

- Download and extract frames from the YouTube video
- Use MediaPipe or OpenPose to detect pose keypoints
- Calculate biomechanical metrics:
 - Front elbow angle
 - Spine lean
 - Front foot placement angle
 - Head-knee vertical alignment
 - Bat swing path (if feasible)
- Score the shot out of 10 on:
 - Footwork
 - Balance
 - Bat Swing
 - Head Position

- Follow-through
 - Overlay pose skeleton and feedback labels on 3-5 key frames
 - Output a JSON or text evaluation with the defined scores and comments
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Deliverables

- `analyze_youtube_shot.py` (Main script)
 - `/output/` folder containing:
 - Annotated images or video clips
 - JSON or text feedback report
 - `README.md` with setup instructions and implementation notes
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Bonus (Optional)

- Build a **Streamlit UI** to upload video and display analysis
 - Compare output with a reference “ideal cover drive”
 - Automatically detect and highlight the frame of bat-ball contact
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