🔑 Core Motion Capture Workflow (OpenCap – Treadmill Setup)

What You Need

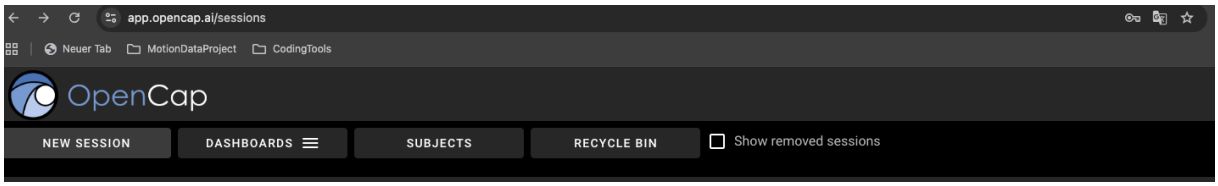
- **1 Laptop** with stable WiFi
- **2 iOS devices** (2018 or newer, on the same WiFi)
- **OpenCap app** installed on both mobile devices
- **Checkerboard** (flat or perpendicular to the floor, to avoid calibration errors)
- **Credentials file for authentication in opencap.ai** (mocap_cred.txt)

Setup & Camera Positioning

1. Place cameras **on both sides of the treadmill**, each at ~**45° angles** from the subject's midline (see sketch in appendix).
2. Position cameras at **hip to shoulder height**, ensuring the **entire body is in view**.
3. Ensure subjects wear **fitted clothing** (test edge cases with coats, skirts, hijabs if possible).

Authentication & Session Setup

1. Log in: app.opencap.ai/login using the credentials in file.



2. Create a **NEW SESSION** and follow prompts.
3. Mount and align both mobile devices using the QR codes and app responses.

Calibration & Consent

4. Run **data assessment + calibration** for each subject.
    a. Record approximate **height and weight**.
    b. Obtain **consent** (data is processed in the cloud, videos may be de-identified).

Recording Trials

5. Record **short treadmill trials** per subject (trial length: 30 to 60 seconds):
    a. At least **2 normal walking** trials.

    b. **2–5 varied trials** (different speeds or intentional gait anomalies like stiff knee, hip misalignment, etc.).
6. Keep **subject fully visible** at all times.
    a. Avoid multiple people entering the frame (causes inverse kinematics errors down the line processing).

✅ Key Success Factors for Recording

- Reliable WiFi + properly mounted iOS devices.
- Correct camera placement (angles, height, and full-body visibility).
- Calibration with checkerboard is essential to avoid skeleton drift.
- Subject consent for cloud-based data processing.
- Multiple trial recordings for robust dataset, including normal and edge-case movements.

Setup Sketch: