Treadmill Gait Lab (Web App)
Step & Stride Metrics (Side View, One Runner)

What you'll measure (treadmill running)

- Step time (ms): time between alternating foot strikes (R→L or L→R).
- Stride time (ms): time between same-foot strikes (R→R or L→L).
- Stride frequency (Hz): 1 / stride time (sec) = 1 / (stride time (ms)/1000).
- Step length (m) (treadmill-derived): speed (m/s) × step time (sec).
- Stride length (m) (treadmill-derived): speed (m/s) × stride time (sec).

Note: On a treadmill, the runner stays in place, so lengths are derived from belt speed × time (not from forward displacement on the floor).

Equipment & setup

- Phone/laptop with camera + browser (Chrome/Safari recommended).
- Stable support (tripod / propped against a stable object).
- Known treadmill speed (km/h or m/s).

Camera position (critical)

- Side view only (sagittal plane).
- Keep hips-to-feet visible at all times.
- Avoid treadmill rails blocking ankles/heels.
- Good lighting; avoid strong backlight (bright window behind runner).

Procedure (Live Camera)

1. Open the web app link and allow Camera access.
2. Enter treadmill speed (km/h or m/s).
3. Start treadmill at a steady pace; runner moves naturally.
4. Tap Start Live Camera.
5. Wait until the table records 10 steps (auto-stops), or press Stop.
6. Tap Download CSV to save results.

Procedure (Upload Recorded Video)

7. Record a side-view treadmill clip (10–15 seconds is enough).
8. Open the app → Upload video → click Process Uploaded Video.
9. Let it run until 10 steps are captured → download CSV.

Quality checks (before you trust your data)

- Tracking quality should show Good or Medium.
- Feet should be visible and not blurred badly.
- If steps are missed or double-counted: move camera slightly back, raise camera height slightly, improve lighting, or reduce occlusion from rails.
- Facing indicator: if it stays Unknown, adjust camera angle/lighting so one body side is clearly visible.