Where human dexterity becomes robot training data.

The Kavana lab records how people use their hands. Each session captures motion capture, egocentric video and neuromuscular signals from the Mudra™ wristband together, so robots learn from what the hand does and what it intends.



A capture session: the participant works inside the motion-capture cage while an engineer monitors every stream from the recording station.

BODY AND HAND POSE

Motion-capture cage

Optical cameras mounted around the frame track reflective markers on the hand and body, giving precise pose as ground truth.

WHAT THE PERSON SEES

Egocentric camera

A head-mounted camera records the task from the participant's point of view, the same view a robot works from.

WHAT CAMERAS CANNOT SEE

Mudra wristband

Surface EMG, IMU and PPG at the wrist add fingertip pressure, subtle finger movement and intent, even when the hand is hidden.

HOW A SESSION RUNS

1 Fit
The participant puts on the wristband, headset and hand markers. No gloves.

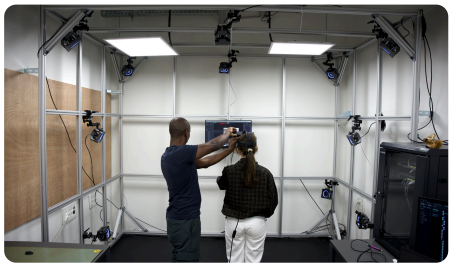
2 Capture
The participant performs real manipulation tasks.

3 Sync
All streams are time-aligned over Lab Streaming Layer (LSL).

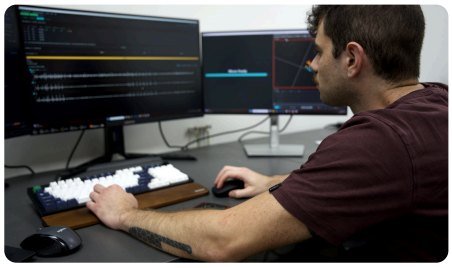
4 Deliver
One clean, synchronized dataset, ready for annotation and training.



Hand markers and the Mudra wristband.



Fitting the egocentric headset.



Reviewing synchronized EMG and motion data.

> **"Vision gives us motion, but EMG gives us human intent. Together, they bring us one step closer to true human dexterity."**
>
> Leeor, CTO, Kavana

Capture with us
Interested in recording your manipulation tasks in the lab?
support@kavana.tech

Contact support@kavana.tech
kavana.tech

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