



Ouvrai: Opening access to remote VR studies of movement

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What can Ouvrai do for me?

- Run remote studies for VR, desktop, and tablets
- Accelerate coding of interactivity and 3D graphics
- Free web hosting and cloud database services
- Recruit and pay participants (Prolific, AMT)
- Open-source and free, except participant payments
- JavaScript template experiments to get you started

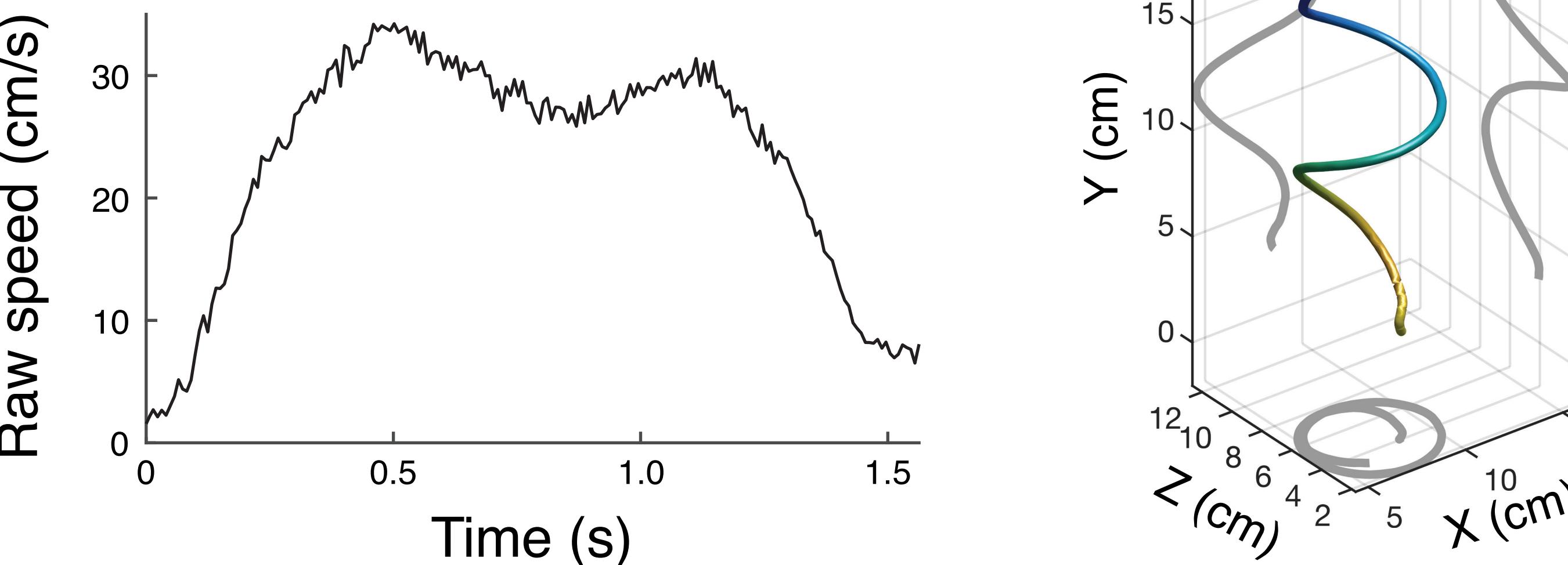
Collect high-quality data quickly in VR

- Record 6-DoF kinematic data at 120 Hz from the head and two handheld controllers
- Capture hand configuration (19 joint angles per hand)
- Ideal for studying human motor control

We validated the viability and efficiency of remote VR studies in three motor learning paradigms.

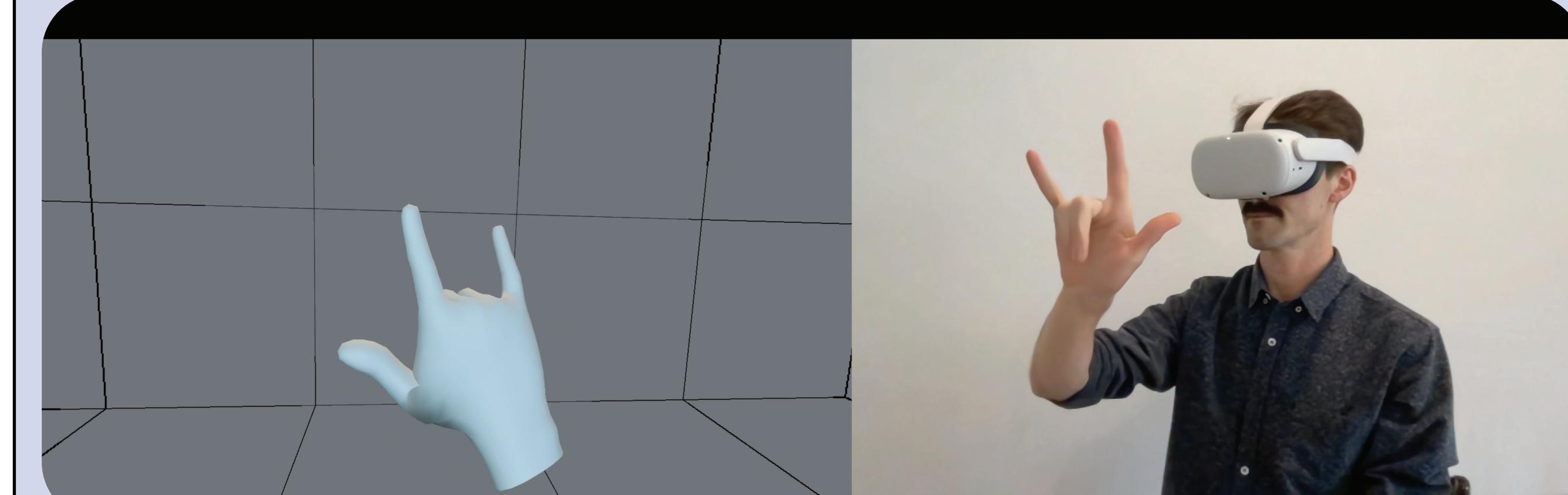
- Ten remote participants in each experiment
- Data collected in less than 2 hours through Prolific
- Participants used their own VR headsets

Example path and unfiltered speed profile



Bonus! Access hand tracking data

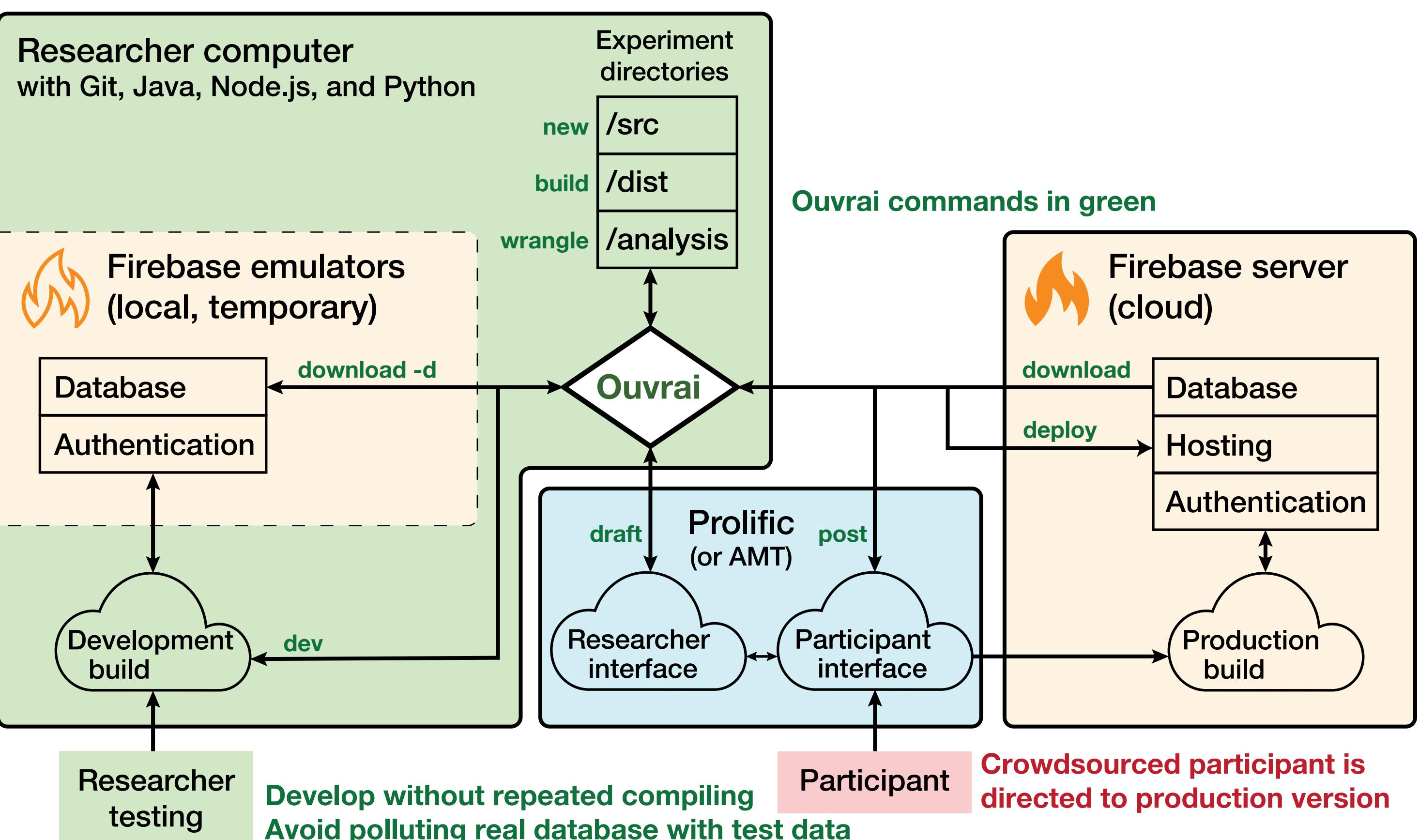
- Track 24 rigid bodies (19 joint angles) per hand
- Try our demo: Swapping fingers within each hand



- note that hand tracking is currently less accurate than controllers

Technical overview

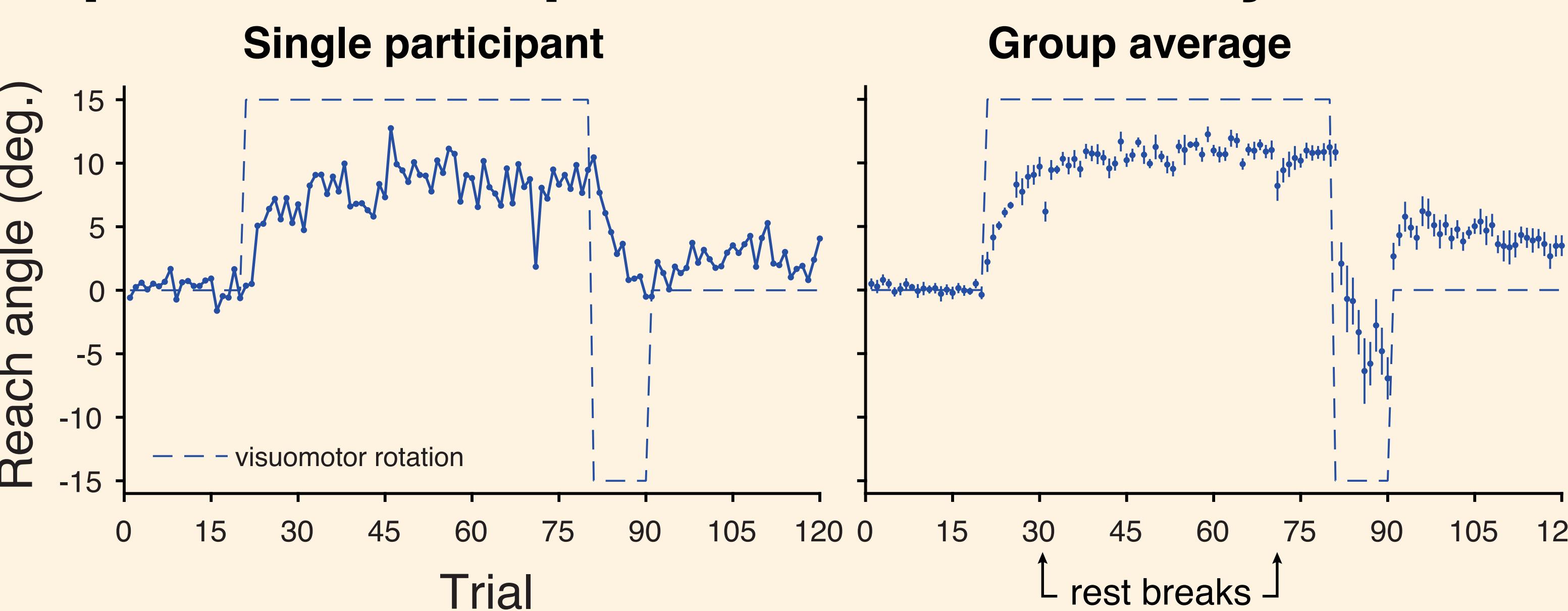
- Command line interface for Mac, Linux, and Windows
- Develop and test experiments locally in a web browser
- Deploy experiments to Firebase web hosting sites
- Download, extract, and pre-process data
- Manage participant recruitment through Prolific or AMT



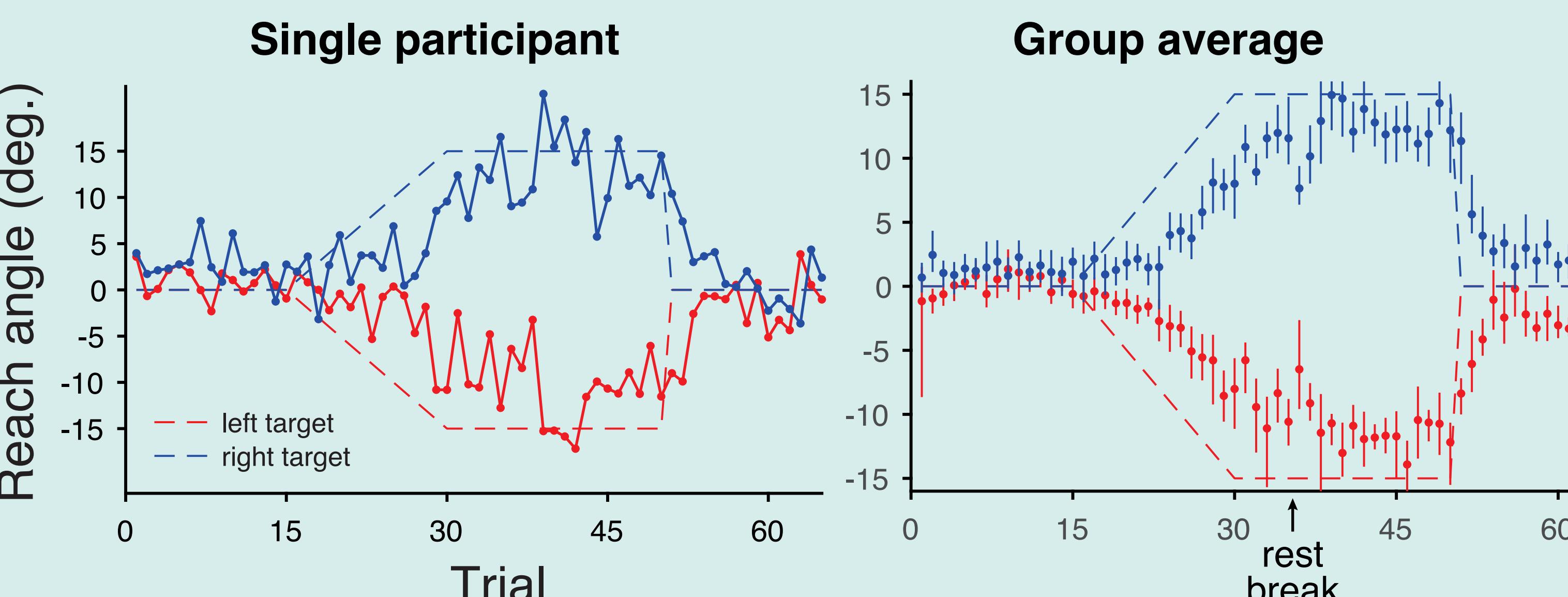
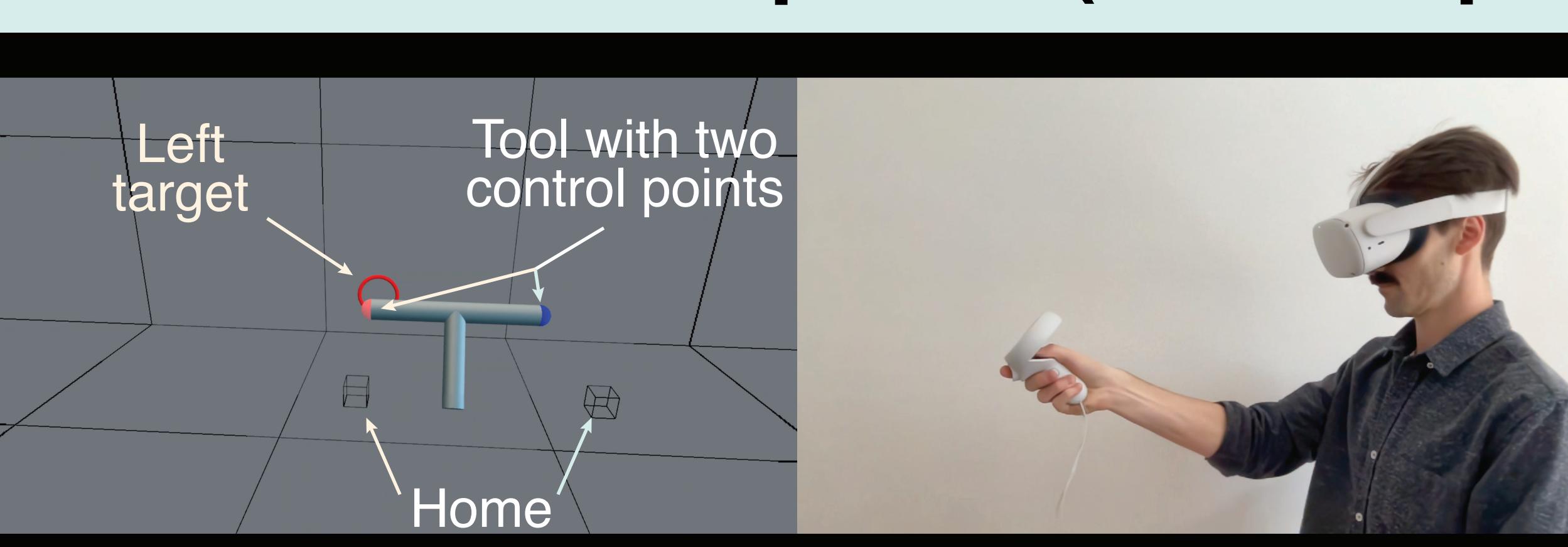
Etymology

Ouvrai sounds like *ouvrir*, the French verb “to open”, because it opens access to high-quality online studies of human behavior for researchers and participants around the world. It’s also a partial acronym for **O**nline **U**nmoderated **V**irtual **R**eality — the new type of study that Ouvrai makes possible.

Experiment 1: Spontaneous recovery

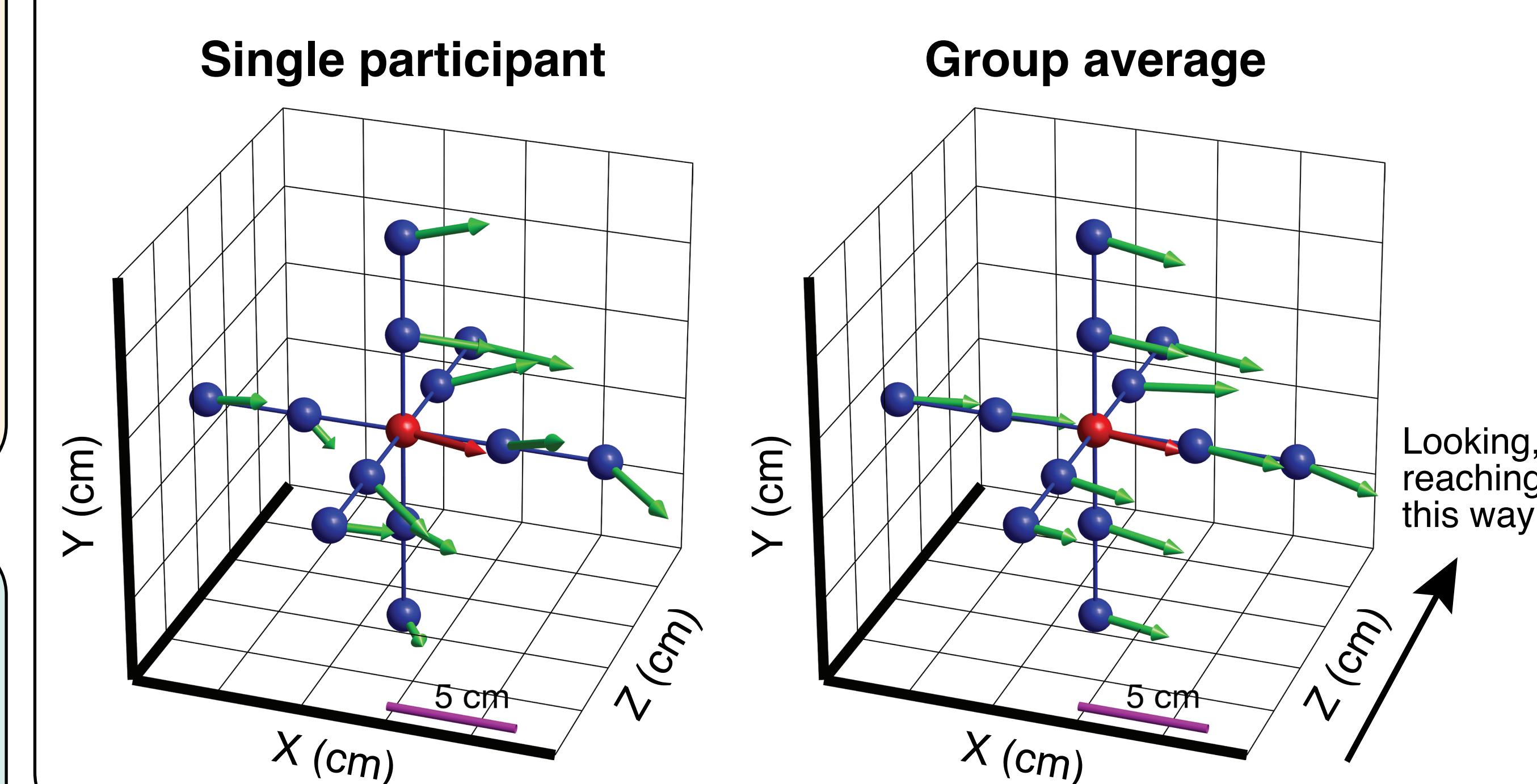


Experiment 2: Control points (dual adaptation)



Experiment 3: 3D generalization of visuomotor rotation

- Adaptation + no-feedback reaches to untrained targets
- Arrows show shift in reach endpoints at post-test



Get started at

ouvrai.com

Need help?

Evan Cesanek is available in person at NCM to help with installation and setup. Come say hello!
Or email us any time: help@ouvrai.com

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