Jeffrey Mu he/him

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Education

Brown University *Expected graduation May 2028* 2024 –
Applied Mathematics & Computer Science GPA: 3.9/4.0
Cognitive Science GPA: 4.0/4.0
Activities: President, Brown RISD Extended Reality • Staff Writer, Brown Daily Herald

Experience

Research Assistant, **3D Information for Perception and Action Lab** 2024 –
PI: Fulvio Domini, Brown University
- Author research on 3D multimodal cue integration in human perceptual and motor systems.
- Implement experimental paradigms and operate native lab hardware to conduct studies. Generate and modify 3D stimuli in OpenGL, conduct subject data analysis with statistical and visualization workflows.

Undergraduate Researcher, **Cognitive Tools Lab** 2025 –
PI: Judith Fan, Stanford University
- Research multimodal convention formation in a 4D AR tower-assembly task. Developed Unity pipelines for gestural classification and workflows for visualizing gesture-speech data, co-authoring manuscript.
- Analyze sketching behavior in ControlNet generative conditions, investigate effect of iteration on system interaction. Developed pipelines merging manual and GPT labels, visualize semantic, part-level sketch strategies.
- Analyze trace-level human/LLM reasoning behavior. Study model reward assignment, rollout performance.

Undergraduate Researcher, **Language Understanding and Representation Lab** 2025 –
PI: Ellie Pavlick, Brown University
- Research LLM volatility in modeling human word compositionality, visualize corpora in PCA spaces.

Visiting Summer Researcher, **Cognition and Action Lab** 2025
PI: Richard Ivry, UC Berkeley
- Developed experimental paradigm to study implicit and explicit policies in motor skill learning task.
- Designed and deployed cross-platform task framework for high-resolution behavioral data collection.

Research Assistant, **Virtual Environment Navigation Lab** 2025
PI: William Warren, Brown University
- Generated and classified QML datasets from VR spatial navigation experiments.

Product Developer, **Kyron Medical** 2024
- Developed doctor-side dashboard interface and patient portal UI.

Publications

Maeda, K., McCarthy, W., Tsai, C., **Mu, J.**, Wang, H., Fan, J., Hawkins, R., Abtahi, P. *(submitted).* Gesturing Toward Abstraction: Multimodal Convention Formation in Collaborative Physical Tasks.

Nasvytis, L., **Mu, J.**, Fan, J. *(in prep).* Reasoning trace analysis as a window into insight and transfer in humans and language models.

Mu, J., Wang, T., Ivry, R. *(in prep).* Explicit strategy and implicit control policy in visuomotor skill learning.

Deng, A., **Mu, J.**, Domini, F. *(in prep).* What changes after visuomotor adaptation? Cue reweighting may in fact be recalibration.

Skills

Programming Languages: Python, Java, JS, C++, HTML/CSS, R.
Software & Tools: Linux/Unix, Jupyter, Google Colab, Git, Adobe Suite, QTM, various Python libraries.
Certificates: VID42: From Script to Final Cut (Stanford Continuing Studies, 2024); Iowa Young Writers' Studio (University of Iowa, 2024); AI Deep Dives (Inspirit AI, 2024).

Honors & Exhibitions

Dana Program for Neuroscience & Society at Loyola University Chicago Journalism Contest (3rd place, 2025), Stanford Report (2024), The Metropolitan Museum of Art (2024)