

Hunter Finney

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SUMMARY

Perception scientist and PhD candidate (defending Summer 2026) specializing in depth and spatial perception, eye tracking, and optical calibration in head-mounted displays. Computer scientist embedded in a cognitive neuroscience lab, designing and building behavioral experiments from the ground up — from action-based measures like walking and reaching to vergence and optical distortion measurement in VR.

TECHNICAL SKILLS

Languages: Python, C, C++, C#, R, Java, JavaScript, HTML/CSS, MATLAB

VR/XR Development: Unity3D (C#), experiment pipeline development, HTC Vive Pro Eye, Varjo XR-3, Meta Quest Pro, Magic Leap 2

Eye Tracking: Fixation/saccade classification, AOI design, calibration & validation, data quality assessment, gaze-contingent paradigms

Research Methods: Action-based perceptual measures (walking, reaching, gap affordance), vergence and optical distortion measurement, interaxial distance manipulation, interpupillary distance and nasopupillary asymmetry calibration for head-mounted displays, qualitative methods (structured interviews, coding), VR-based psychophysics

RESEARCH EXPERIENCE

Graduate Researcher — VAAST Lab, University of Utah

Aug 2020 – Present | Advisors: Sarah Creem-Regehr, Jeanine Stefanucci, Bobby Bodenheimer

- Serve as primary technical lead: design and build VR experiments, data collection tools, and experimenter interfaces for an active multi-project perception research lab.
- Dissertation: Investigating effects of IPD–IAD mismatch on distance and orientation perception across VR headsets (Vive Pro Eye, Varjo XR-3), using eye tracking to characterize pupil swim and gaze-contingent distortions.
- Collaborate within a diverse interdisciplinary team spanning the School of Computing, Department of Psychology, and Division of Games.
- Mentored three undergraduate researchers, each of whom graduated with both a publication and a graduate school acceptance.

Undergraduate Researcher — Hi5 Lab, University of Mississippi

Aug 2016 – May 2020 | Advisor: J. Adam Jones

- Created virtual environments for co-location and depth perception experiments, advancing from research assistant to first-author researcher over four years.
- Taught Unity VR development during office hours, led teams presenting VR applications to businesses and educators, and assisted on multiple graduate thesis projects.

EDUCATION

PhD Computing — Human Centered Computing, University of Utah, Expected Summer 2026

B.S. Computer Science, University of Mississippi, May 2020

SELECTED PUBLICATIONS

Finney, H. C., McCracken, M. K., Pepek, J., Creem-Regehr, S. H., & Stefanucci, J. K. (2026). IPD–IAD Mismatch Distorts Near-Space Distance and Orientation Perception Across HMDs. *Submitted to ISMAR 2026*.

Finney, H. C., McCracken, M. K., Zhuo, E., Creem-Regehr, S. H., & Stefanucci, J. K. (2026). Effect of Interpupillary Distance Mismatch on Distance and Orientation Perception in Action Space Across HMDs. *IEEE Transactions on Visualization and Computer Graphics*. In press. Presented at IEEE VR 2026.

Finney, H., Gagnon, H., Creem-Regehr, S. H., Bodenheimer, B., & Stefanucci, J. K. (2025). Children’s Calibration of Reaching Estimates in Virtual Reality. *IEEE Conference on Virtual Reality and 3D User Interfaces (VR)*, 591–601.

Chakraborty, S., **Finney, H.**, Gagnon, H., Creem-Regehr, S., Stefanucci, J., & Bodenheimer, B. (2024). Inter-Pupillary Distance Mismatch Does Not Affect Distance Perception in Action Space. *ACM Symposium on Applied Perception 2024*, 1–9.

McCracken, M. K., **Finney, H. C.**, Yang, S., Bodenheimer, B., Creem-Regehr, S. H., & Stefanucci, J. K. (2024). Big Feet for Little People: Scaling Gap Affordance Judgments. *IEEE ISMAR 2024*, 249–258.

Finney, H., & Jones, J. A. (2020). Asymmetric Effects of the Ebbinghaus Illusion on Depth Judgments. *IEEE Conference on Virtual Reality and 3D User Interfaces (VR)*, 573–578.

AWARDS

Honorable Mention, Best Doctoral Consortium — IEEE VR 2026

SR Research Poster Award — ECEM 2024

TEACHING & TRAINING

Intro to Computer Programming — Teaching Assistant, 120 students, University of Utah, Spring 2026

Discrete Structures — Teaching Assistant, 200 students, University of Utah, Fall 2023

Human Performance & Engineering — Teaching Assistant, 40 students, University of Utah, Spring 2023