

Prachi Mahableshwarkar, Ph.D.

Summary: 5+ years of experience in designing vision/HCI experiments, analyzing human large-scale data (3,000+ participants, custom Python codebase), and designing/testing a virtual reality training system for a medical residents.

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Work Experience

- 2019-2024 | **Doctoral Researcher - Human Visual Cognition, Depth Perception**
Quantitative Model of Human Spatial Perception in Images ([github-repo](#)) (Python, R, HPC, Unity)
- Designed and executed image-based quantitative experiments on 3,000 participants (4 publications, [pre-print](#), [in press](#))
 - Conducted data visualization, statistical analysis, model testing, and bootstrapped decoding analyses on behavioral responses to depth tasks in images
 - Wrote custom scripts in Unity (VR developer platform) to perform controlled data-driven analyses of human error in spatial perception.
- Pipeline for Large-Scale Online Data Collection* (Python, PHP, Javascript/HTML/CSS)
- Built an open-source pipeline that accelerates online data collection by 25x using custom servers (AWS) and data collection platforms (MTurk, Prolific; [code-base](#), in Press late Spring)
- 2020-2023 | **Virtual Reality Research Collaborator at Children's National Hospital**
- Developed testing procedures and led a cross-functional team in data collection efforts to optimize VR/AR training system for neonatal endotracheal intubation
 - Conducted usability tests (ergonomics, UX) and statistical analyses to assess human performance
- 2018 | **Intern - Goldman Sachs Organizational Research Team**
- Created data-driven psychology solutions to fix the gender pay gap and promote ethical practices at the firm

Skills

Research: Statistical analysis, data visualization, experimental design, data analysis, usability testing, survey methods

Languages: Python, MATLAB, Javascript, R, Advanced Statistical Modeling Analysis (SAS), SQL

Frameworks/Libraries: Pandas, Git, Pillow (PIL), NumPy, Matplotlib, SciPy, scikit-learn, JupyterLab, Unity

Education

- 2024 | **The George Washington University**
PhD in Cognitive Neuroscience
- 2019 | **Carnegie Mellon University**
Bachelor of Science in Cognitive Neuroscience, Minor in Human Computer Interaction

Leadership Experience

- 2020-2022 | **Board Member of GWU's Collaborative of Department Equity (CODE)**
- Developed surveys, reviewed syllabi, and organized meetings to advance equity, diversity, and inclusion
- 2021-2024 | **Research Mentor - Brain and Navigation Laboratory**
- Mentored a team of research assistants and developed tutorials on Python, JupyterLab, pandas, and GitHub

Honors, Awards, and Conferences

- [3 Minute Thesis winner](#), OPAM 2022 Professional Development Award
- National Honors Society in Neuroscience (Nu Rho Psi), Psychology (Psi Chi), and Mortar Board
- Presented novel [findings](#) to different audiences in 4 presentations at prominent scientific conferences