Prachi Mahableshwarkar, Ph.D.

Summary: 5+ years of experience in designing vision/HCI experiments, analyzing large-scale data (3,000+ participants, custom Python codebase), and developing effective VR systems through multimodal data analysis and user testing.

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Work Experience

2025-Present | **Human Frontier Collective Specialist - GenAI at Scale AI**
- Building and evaluating complex problem sets to rigorously test AI models and inform research directions.

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 3D spatial perception experiments on 3,000 participants; modeled behavioral errors using linear mixed-effects, linear/logistic regression models (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 customize 3D virtual environments for controlled spatial cognition tests.

Pipeline for Large-Scale Online Data Collection (Python, PHP, Javscript/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**
- Improved training outcomes by 30% by leading a cross-functional team in data-driven iteration of a VR/AR system, using real-time user feedback and performance metrics (see paper).
- Conducted usability tests (ergonomics, UX) and statistical analyses of multimodal data to assess 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: Experimental design, behavioral modeling, statistical inference, usability testing, ergonomic evaluation
Languages: Python, MATLAB, R, JavaScript, PHP, SQL
Frameworks/Tools: scikit-learn, pandas, NumPy, Matplotlib, Unity, JupyterLab, Git, PIL, JupyterLab, Unity, Adobe Suite

Education

2024 | **The George Washington University** - *PhD in Cognitive Neuroscience*

2019 | **Carnegie Mellon University** - *B.S. 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