HARINI BABU
hariniba@umich.edu
Department of Psychology
University of Michigan
530 Church Street
Ann Arbor, MI 48109

EDUCATION

Ph.D. Psychology   Expected Graduation: May 2026
Concentration in Cognition and Cognitive Neuroscience (CCN)
The University of Michigan
Advisor: Dr. Patricia Reuter-Lorenz

M.S., Psychology   Graduation: May 2023
The University of Michigan
Advisor: Dr. Patricia Reuter-Lorenz
Thesis: *Value-Directed Memory: How and When Do List Lengths Matter?*

M.A., Bioethics and Medical Humanities   Graduation: May 2021
Case Western Reserve University
Thesis: *Artificial Intelligence and Decision-Making Capacity: A Proposed Framework*

B.S., Psychology, Neuroscience Option   Graduation: May 2020
Minors: (1) Bioethics and Medical Humanities; (2) Biology
The Pennsylvania State University

RESEARCH INTERESTS

Brain aging, neuromodulation, cognitive training, age-related cognitive and functional changes, memory impairment related brain changes, and translational aging research.

PUBLICATIONS

Babu, H. J., Jantz, T. K., Xie, K., & Reuter-Lorenz, P. A. (Revising for resubmission). Strategy effects and value directed recall of sub-and supra-span word lists. Submitted to *Memory and Cognition*

Gerver, C. R., Overman, A. A., **Babu, H. J.,** Hultman, C. E., & Dennis, N. A. (2020). Examining the Neural Basis of Congruent and Incongruent Configural Contexts during Associative Retrieval. *Journal of Cognitive Neuroscience*, 1-17. https://doi.org/10.1162/jocn_a_01593.

Kurkela, K. A., Carpenter, C. M., **Babu, H.,** Chamberlain, J. D., Allen, C., & Dennis, N. A. (2021). The effect of memory cue duration on performance in the directed forgetting task in healthy aging. *Neuropsychology, development, and cognition. Section B, Aging, neuropsychology and cognition*, 1–22. Advance online publication. https://doi.org/10.1080/13825585.2021.1942427

PRESENTATIONS

Talks

The Concurrent Effect of HD-tDCS on Resting State Activity in Older Adults   May 2025
with and without aMCI: An Investigation with fNIRS
LIFE Academy Talk, University of Michigan

The Effect of tDCS on Resting State Activity in Older Adults: January 2025
An Investigation with fNIRS
Cognition & Cognitive Neuroscience Area Forum Talk, University of Michigan

Value Directed Memory: Do List Lengths Matter?   February 2023
Cognition & Cognitive Neuroscience Area Forum Talk, University of Michigan

Selected Posters

Babu, H.J (Presenter)., DiRita, V., Lynch, R.M., Zhao, Y., Rinna, K., Hampstead, B.M., Reuter-Lorenz, P.A., Iordan, A.D. (2025). Concurrent effects of high-definition transcranial direct current stimulation on resting-state brain activity in older adults: A fNIRS analysis. *Poster presented at the 2025 Dallas Aging and Cognition Conference, Dallas, T.X., & at the University of Michigan Medicine Silverman Research Conference, Ann Arbor, M.I.*

Sarver, K.A., Bernardini, E, A., Frank, C.C., Iordan, A.D., **Babu, H.J.,** Reuter-Lorenz, P.A., (2025). Affective Forecasting Accuracy and Working Memory for Emotion in Younger and Older Adults. *Poster presented at the 2025 Dallas Aging and Cognition Conference, Dallas, T.X.,*

Babu, H.J (Presenter)., Rinna, K., Stanley, J., Peltier, S., Hampstead, B.M., Reuter-Lorenz, P.A, Iordan, A.D. (2024). High-definition Transcranial Direct Current Stimulation Effects on Functional Magnetic Resonance Spectroscopy. *Poster presented at the 2024 University of Michigan Medicine Silverman Research Conference, Ann Arbor, M.I. & at the LIFE Academy in Berlin, D.E.*

Babu, H.J (Presenter)., Xie K., Hampstead, B.M., Reuter-Lorenz, P.A, Iordan, A.D. (2023). Working Memory Training in Mild Cognitive Impairment: A Multimodal Imaging Investigation. *Poster presented at the 2023 University of Michigan Medicine Silverman Research Conference, Ann Arbor, M.I.*

Xie, K., **Babu, H.J** (Co-Presenter)**.,** Hampstead, B.M., Reuter-Lorenz, P.A, Iordan, A.D. (2023). Working Memory Training in Mild Cognitive Impairment: A Multimodal Imaging Investigation. *Poster presented at the 2023 Dallas Aging and Cognition Conference, Dallas, T.X.*

Babu, H.J (Presenter)., Carpenter, C., Webb, C. E., Overman, A. A., & Dennis, N. A. (2020). Contextual interference negatively impacts associative memory across age. *Poster to be presented at the 2020 Psi Chi Undergraduate Research Conference, University Park, PA. *canceled due to COVID-2019.*

Babu, H.J (Presenter)., Carpenter, C., Webb, C. E., Overman, A. A., & Dennis, N. A. (2020). Contextual interference negatively impacts associative memory across age. *Poster to be presented at the 2020 Cognitive Aging Conference, Atlanta, GA. *canceled due to COVID-2019.*

FELLOWSHIPS & AWARDS

Rackham Graduate Student Doctoral Research Grant ($3000)|University of Michigan   2025

Rackham Conference Travel Grant ($900) | University of Michigan   2025

International Max Planck Research School on Learning, Intuitions, and Future Evolution (LIFE) Fellow | University of Michigan   2024 – Present

Rackham Conference Travel Grant ($900) | University of Michigan   2023

Rackham Graduate Student Predoctoral Research Grant ($1500)|University of Michigan   2023

(Research) Student Assistantship ($5,000)| Case Western Reserve University   2020 – 2021

Undergraduate Travel Award ($100) | Pennsylvania State University   2020

Mona Shibley Bird Memorial Scholarship ($700) | Pennsylvania State University   2019

Costello Family Scholarship in Psychology ($530) | Pennsylvania State University   2019

Student Engagement Network Grant ($1,000) | Pennsylvania State University   2018

Liberal Arts Enrichment Funding ($7,907) | Pennsylvania State University   2017-2019

Segal Education Award ($1,222) | Americorps   2017

Dean's List | Pennsylvania State University   Seven Semesters

RESEARCH EXPERIENCE

Graduate Research Experience
Cognitive and Affective Neuropsychology Lab
Department of Psychology, University of Michigan   Ann Arbor, MI
Graduate Student   July 2021 – Present
- Design, program, and run behavioral studies (in-person and online) using PsychoPy and Pavlovia to assess strategy use and memory performance
- Lead data collection and assist in programming tasks for multimodal neuroimaging studies (fMRS, fMRI and fNIRS) in using PsychoPy
- Clean behavioral and neuropsychological data, preprocess neuroimaging data, and perform statistical analyses using MATLAB, SPM, and RStudio
- Supervise and mentor team of research assistants involved in behavioral and neuroimaging research
- Develop research papers and posters for publication based on experimental results and analysis

Projects included
- Project 1: *The Effect of Transcranial Direct Current Stimulation on Older Adults with and without Mild Cognitive Impairment*
- Project 2: *Affective Working Memory and Affective Forecasting Abilities Surrounding the 2024 Presentational Election*
- Project 3: *The Effect of Cognitive Training on Working Memory Performance*
- Project 4: *The Effect of Strategies (Value Directed Memory) on Working Memory Performance*

Department of Bioethics, Case Western Reserve University   Cleveland, OH
Seed Sprint Research Assistant   November 2020 – July 2021
- Provide support in study designs and tools (e.g., questionnaires, interview guide, qualitative methods)
- Develop visual presentations summarizing key findings to be presented in conferences
- Compose annotated bibliography and maintain literature database

Departmental Research Assistant   August 2020 – May 2021
- Collaborate in various student-led outreach programs to facilitate student engagement
- Provide research support by conducting literature reviews in various bioethical projects
- Communicate with graduate professors on bioethical projects on topics ranging from: surrogacy, organ donation, and consent.

Undergraduate Research Experience
Cognitive, Aging, and Neuroscience Laboratory
Department of Psychology, Pennsylvania State University   University Park, PA
Research Assistant   January 2017 - May 2020
- Recruited and tested both older and younger adults in behavioral and neuroimaging studies designed to assess memory functioning
- Supervised and mentored a team of research assistants to collect and analyze data for associative memory studies for both younger and older adults
- Responsible for collecting, pre-processing, and analyzing fMRI data using FSL and R-Studio
- Coordinated data collection in several projects on site at Penn State, and liaised with team members at Elon University (NC) to conduct follow up analyses
- Developed research papers and posters for publication

Projects included (but not limited to):
- Project 1: *The Effect of Gestalt Psychology on Associative Memory in Older and Younger adults*
- Project 2: *The Effect of Directed Forgetting on Memory*
- Project 3: *The Effect of Stimuli Properties on Associative memory*

TEACHING EXPERIENCE AND TRAINING

Graduate Student Instructor, Psychology Department, University of Michigan
Research Methods in Cognitive Neuroscience (Psych 302)
      Lead Instructor: Dr. Daniel Weissman, 40 students   Fall 2024
      Lead Instructor: Dr. Daniel Weissman, 40 students   Fall 2023
      Lead Instructor: Dr. Daniel Weissman, 40 students   Fall 2022
- Assisted in updating key teaching materials—including research report rubrics, templates, lesson content, and grading tools—for use by future students and Graduate Student Instructors

Graduate Student Instructor, Psychology Department, University of Michigan
Research Methods in Human Electroencephalography (Psych 342)
      Lead Instructor: Dr. David Brang, 40 students   Winter 2023

Graduate Student Instructor, Psychology Department, University of Michigan
Introduction to Cognitive Psychology (PSYCH 240)
      Lead Instructor: Dr. Madison Fansher, 64 students   Winter 2024
      Lead Instructor: Dr. Thad Polk, 25 students   Winter 2022

Writing 993: Teaching Writing in the Disciplines   Fall 2022
Sweetland Center for Writing, University of Michigan
- This writing course trains graduate students to learn pedological skills necessary to teach a writing course

Teaching Academy   August 2021 – April 2022
- This course prepared graduate students for teaching at the University of Michigan through discussions and explanations of best practices.

MENTORSHIP AND OUTREACH EXPERINCE

Psychology Scholarship, Transferable skills, Academia, and Research Scholar (STAR) Program Mentor   August 2024 – Present
University of Michigan
- Facilitate the involvement of underrepresented students in research through structured mentoring, assisting undergraduate students in preparing for research roles, increasing the number of students engaged in advanced research, and providing academic support to foster an inclusive community.
- Before becoming a mentor, engaged annually in STAR Research Speed Networking Events to discuss research interests, implications, and offer guidance on research and graduate school to STAR Scholars.
- In 2025, the STAR Program won the Claudia Joan Alexander Trailblazer Award. This award honors teams for the development or implementation of a program that supports success for all students in STEM at U-M.

Undergraduate Research Assistant Mentor   January 2022 – Present
University of Michigan
- Mentored Honors Thesis student (2024 – 2025): *Working Memory for Emotion and Affective Forecasting Abilities Revisited Via the 2024 Presidential Election*
- Mentor multiple undergraduate students (as many as 8 research assistants at a time) on neuromodulation, cognitive training, and value directed learning projects
- Train students to assist in literate reviews, R code data cleaning, and online/in-person data collection, and interpreting key results. Host biannual workshops for undergraduates on the graduate school application process, including guidance on preparation, resources, and pathways to admission

Society for Advancement of Chicanos/Hispanic and Native Americans in Science Mentor 2024
University of Michigan
- Reviewed and provided feedback on mentees' graduate school application materials, including CVs and personal statements
- Offered guidance on the graduate school interview process and application strategies
- Supported mentees in refining personal narratives and preparing strong application materials

Campus Connection Speed Networking Mentor   2023
University of Michigan
- Introduced incoming first year undergraduate students to cognitive psychology research by providing lab tours and demonstrations of research assistant (RA) responsibilities

- Guided students through mock scanner tasks to simulate experimental procedures and enhance their understanding of lab-based research
- Helped students explore potential research interests and assess their fit for future involvement in cognitive neuroscience research

Michigan Association of Psychological Scholars Mentor   August 2021 – 2024
University of Michigan
- Mentored undergraduate students with personal and professional development
- Responsibilities included reviewing application materials including personal statements and curricula vitae, encouraging and helping students gain research experiences such as joining a research lab and answering academic and research-related questions

Girls Who Code Facilitator   June 2022 – July 2022
University of Michigan
- Facilitated weekend workshops for high school students in analyzing real-world datasets from the Girls Who Code repository while fostering data literacy and coding confidence
- Provided mentorship and academic support to students from underrepresented backgrounds in STEM, including those from rural and underserved urban communities

UNIVERSITY SERVICE

Cognition and Cognitive Neuroscience Admissions Committee   2024 – 2025
- Collaborated with faculty and graduate students to review and evaluate graduate applications for the Cognition and Cognitive Neuroscience area, assisting in the preliminary selection process

Cognition and Cognitive Neuroscience Recruitment Committee   2023 – 2024
- Involved in planning and organizing the recruitment weekend for the Cognition and Cognitive Neuroscience recruit

Cognition and Cognitive Neuroscience Summer Subcommittee Member   May – August 2022
- Worked on a team of graduate students and faculty members to address structural issues concerns the Cognition and Cognitive Neuroscience graduate program

Cognition and Cognitive Neuroscience Social Committee   2022 –2023
- Planned and organized social events to foster community and strengthen connections between graduate students and faculty members

Graduate Student Leadership Council (GSLC) Member   2021 – 2024
- Served as a liaison between graduate students and administration by attending meetings and contributing to decision-making processes

Psychology Graduate Student Association (Co-Chair)   2021 – 2024
- Planned and coordinated social events throughout the academic year to foster a supportive and collaborative environment among graduate students

MEMBERSHIPS

National Honor Society in Psychology- Psi Chi   Spring 2018 – Present
National Society of Leadership and Success - NSLS   Spring 2017 – Present

SELECTED TRAINING EXPERINCES

Skills

- R-Studio | University of Michigan
- Qualtrics | University of Michigan
- MATLAB | University of Michigan
- Python | University of Michigan
- PsychoPy & Pavlovia | University of Michigan
- Redcap | University of Michigan
- SPM | The Pennsylvania State University
- SPSS | The Pennsylvania State University
- FSL | The Pennsylvania State University
- E-Prime | The Pennsylvania State University
- Irfanview | The Pennsylvania State University
- Microsoft Office Suite | The Pennsylvania State University

Workshops
- Inter-university Consortium for Political and Social Research (ICPSR) | University of Michigan
- Training Course in fMRI | University of Michigan
- Teaching Academy | University of Michigan
- Graduate Student Instructor Teaching Orientation | University of Michigan
- HIPAA Self-Serve Data Tools | University of Michigan
- PEERS Responsible Conduct of Research and Scholarship Training | University of Michigan

Certificates   *Expected 2026*
- Center for Research on Learning and Teaching (CRLT) Certificate | University of Michigan
- Cognitive Science Certificate | University of Michigan
- Data Science Certificate | University of Michigan
- fMRI Safety Certified | The Pennsylvania State University