

Ziyi Guo

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EDUCATION

The Johns Hopkins School of Medicine, Baltimore, MD

Ph.D. in Neuroscience

Expected May 2027

Thesis supervisor: Dr. Marshall G. Hussain Shuler

Brandeis University, Waltham, MA

B.S. in Neuroscience, Computer Science, and Psychology

May 2021

GPA: 4.0

Honor Thesis: “Communication subspaces for local-field potential defined network states during hippocampal-prefrontal interactions”

Thesis supervisor: Dr. Shantanu P. Jadhav

ACADEMIC EXPERIENCE

Hussain Shuler Laboratory - Reinforcement Learning based Decision Making

Jun 2022 - Present

Graduate Research Assistant, The Johns Hopkins School of Medicine, Baltimore, MD

- Model mice behavior with different algorithms
- Train mice in a time-investment task using a custom built rig

Jadhav Laboratory – Learning and Memory

Jan 2018 - May 2021

Undergraduate Research Assistant, Brandeis University, Waltham, MA

- Process and analyze experimental data using MATLAB
- Conduct electrophysiological experiments to record neuronal activity during learning
- 3D model and print parts of the experiment maze and micro-array drive
- Train neural network for automatic position-tracking
- Handle, train and maintain animals during different phases of the experiment
- Support implant surgeries to record activity in the prefrontal cortex and hippocampus

Independent Study – Developmental Psychology

Aug 2018 - Nov 2019

- Coded and analyzed questionnaire responses using R and SPSS
- Developed scoring metrics based on existing literatures
- Collected data from cross-cultural populations

Computer Science Department

Teaching Assistant, Brandeis University, Waltham, MA

June 2019 - May 2020

- Mentored students in Introduction to Java and Advanced Programming Techniques in Java
- Led a team of 16 teaching assistants in classes with 100+ students
- Designed and organized weekly recitations to review and supplement topics taught in class
- Developed programming assignments and their grading tests

POSTERS & ABSTRACTS

Guo, Z., Young, R., & Jadhav, S. P. (2020 December). Communication subspaces for local-field potential defined network states. Presented at the SfN Global Connectome: A Virtual Event.

Guo, Z., Young, R., & Jadhav, S. P. (2019). Got Milk? Assessing Goal-directed Behavior Driven By Sensory Cues and Memory in Rats. Presented at Brandeis University SciFest 2019. Waltham, MA.

Guo, Z., Chen, Y.-L., & Youngstrom, E. A. (2019). Intergenerational transmission of parenting style: discontinuities predicted by culture. Accepted by the 2020 Annual Convention of American Psychological Association, Washington, DC.

Guo, Z., Chen, Y.-L., & Youngstrom, E. A. (2018). Intergenerational transmission of parenting style in a cross-cultural college student sample. Presented at the 2019 Annual Convention of American Psychological Association, Chicago, IL.

HONORS

- Class of 1955 Prize in Creative Ability 2021
- Phi Beta Kappa as a junior 2020
- Computational Neuroscience Traineeship, as part of the training from NIDA 2020
- M. R. Bauer Foundation Summer Undergraduate Research Fellows 2019

ACTIVITIES

Virtual Reality Anthropology Library, Brandeis Skunkworks March 2019 - May 2021

Team Leader, Brandeis University, Waltham, MA

- Supervise team progress with Jira
- Scan and process anthropological artifacts with Artec in Brandeis MarkerLab
- Implement UI with Unity and Oculus headset that interactively showcases the artifacts
- Organize anthropological research in coordination with the Anthropology Department
- Brainstorm the gaming and/or educational aspects of the final product with various potential stakeholders

Neuroscience Club

Jan 2018 - May 2019

Treasurer, Brandeis University, Waltham, MA

- Oversaw club financial status and managed funding through communicating with the allocation board
- Organized events such as faculty panels that promote neuroscience to general audience
- Presented and participated in student-led journal club discussions

PROFESSIONAL MEMBERSHIP

- Member, Society of Neuroscience 2020-2021
- Undergraduate Student Affiliate, American Psychological Association 2019-2020

SKILLS

Computer Skills: Proficient in Java, MATLAB, Python, R, SPSS, and Microsoft

Laboratory Skills: Genotyping, Imaging, Immunocytochemistry, Animal Handling and Training on Behavioral Assays, Building and Adjusting Micro-Array Electrodes

Languages: Chinese (Native), English (Professional), Japanese (Intermediate)