Yujingai Shi

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EDUCATION

Emory University, Atlanta, GA — Aug. 2021 – May 2025 (Expected)
Bachelor of Sciences in Psychology
Bachelor of Arts in Computer Science
Cumulative GPA: 3.91/4.0
Relevant courses: Psyc 554(Perception, Attention, & Language Graduate Seminar), CS 485(Design Studio in HCI), CS326 (Analysis of Algorithms), Psyc 381 (Neuroeconomics: Decision-Making), NBB302 (Behavioral Neuroscience), Psyc 385 (Data Mining in the Mind), Psyc 302 (Human Learning & Memory)

HONORS AND AWARDS

Psi Chi International Honor Society in Psychology, Emory University — Apr. 2023 – Present
Shenoy Undergraduate Research Fellowship in Neuroscience (SURFiN), Simons Foundation — July 2023
Dean's List, Emory University — Fall 2022 – Spring 2023
Princeton Neuroscience Institute-Conte Center Summer 2024 internship, Princeton University — Jun. 2024- Aug. 2024

RESEARCH EXPERIENCE

Neuroscience of Attention & Perception Laboratory, Princeton University — **Princeton, NJ**
Student Researcher — Jun. 2024 - Aug. 2024
Rhythmic Endogenous Attention Sampling Under Spatial Uncertainty

- Participated in the project conceptualization and the execution through the collaboration with a Ph.D. student to understand the rhythmic process of endogenous attention under spatial uncertainty.
- Analyzed brain activity data for spatial attention tasks by employing FFT and EMD to find endogenous attention rhythms in the theta band (4-8 Hz).
- Independently performed eye-tracking experiments and analyzed resulting data using MATLAB, R, and Python.
- Resolved the high collinearity issues in fMRI simulations through orthogonalization.
- Resulted in a poster presentation at Society for Neuroscience 2024 Annual Meeting.

Dilks Lab, Emory University — **Atlanta, GA**
Undergraduate Researcher — Aug. 2023 - Present

Shape Representation Across Different Domains: Object Versus Place Processing

- Independently designed and executed the project to assess the domain-specificity of shape skeleton representation across object and scene processing.
- Investigated the spatial recognition in virtual environments using Unreal Engine 5.
- Developed diverse virtual spaces to assess participants' spatial and object recognition abilities, harnessing VR technology to replicate and expand upon foundational research.

Mirror-image sensitivity in Superior Place Area

- Conducted behavioral experiments involving human participants to assess their spatial cognitive processes and object recognition abilities, serving as preliminary experiments for TMS experiments.
- Performed 15 fMRI experiments through the collaboration with a graduate student to examine the mirror image sensitivity of the newly discovered superior place brain area.

Hamann Cognitive Neuroscience Lab, Emory University — **Atlanta, GA**
Research Assistant — Apr. 2022 - May.2023

- Participated in the development of experimental protocols aimed at investigating cued memory and emotional sound stimuli in human subjects.
- Recruited and interacted with over 80 participants and utilized Excel for statistical data analysis to evaluate the potential memory bias towards positive and negative stimuli.
- Received CITI program certifications for conducting ethical and safe research involving human subjects.

Sober Lab, Emory University — **Atlanta, GA**

Undergraduate Research Fellow Jan. 2022 - Present

Revealing the Role of Area-X Neurons in Encoding Variable Sequence Control in Bengalese Finch Song

- Conducted an independent project as a SURFin fellow supported by Simons Foundation.
- Performed simultaneous recordings of bird song and neural activity in Area X.
- Employed extracellular single-unit recordings to capture neural-firing in Area X, and successfully quantified sequence-dependent firing differences in neural activity.
- Resulted in a poster presentation at Shenoy undergraduate research fellowship in neuroscience symposium.

Revealing the role of HVC interneurons in the control of vocal sequence variability in Bengalese Finches

- Independently developed a MATLAB based pipeline named "sequence_extraction" to automate the analysis of bird vocalizations, extracting sequences and distinguishing between syllables.
- Performed weekly bird care tasks, health inspections, and song recording.
- Utilized MATLAB to conduct behavioral analysis of over 300 birdsong recordings.
- Facilitated bird microsurgery procedures including brain sectioning and histology.

POSTER PRESENTATIONS

Shenoy undergraduate research fellowship in neuroscience symposium, Simons Foundation Apr. 2024

- **Shi Y**, Vordzorgbe J, Wood A, Sober S. Revealing the role of Area-X neurons in encoding variable sequence control in Bengalese Finch Song

Society for Neuroscience 2024 Annual Meeting, Society for Neuroscience Oct. 2024

- **Shi Y,** Liu X, Kastner S. Rhythmic Endogenous Attention Sampling Under Spatial Uncertainty

EXTRACURRICULAR ACTIVITIES

Psi Chi Peer Mentorship Program, Emory University **Atlanta, GA**
Mentor Apr. 2023 - Present

- Matched with one sophomore mentee and committed to a one-year mentorship.
- Provided insights on the relevance of various psychology concentrations to different career and academic path and guided mentees in finding research opportunities aligned with their interests.

Behavioral Neuroscience (NBB 302), **Emory University** **Atlanta, GA**
Teaching Assistant Jan. 2023 - Present

- Collaborated with instructors to design class formats and hold review sessions.

Emory Tzu Ching Club, Emory University **Atlanta, GA**
Vice President Apr. 2022 - May 2023

- Led an online Anime Club with Emory Autism Center to promote social skills and engagement among autistic teens through shared interests.
- Contributed to the tutoring program through mentoring three immigrant children in Math and English literacy over two academic semesters to enhance their academic proficiency.

Emory Wind Ensemble & Emory Symphony Orchestra, Emory University **Atlanta, GA**
Percussionist Aug. 2021 - Present

- Mastered assorted tuned percussion instruments such as marimba, timpani, and vibraphone, and untuned percussion instruments such as bass drum and snare drum.
- Performed in the *100th Anniversary of the Emory University Symphony Orchestra 2022- 2023* season concerts and played pieces such as *Scheherazade.*

SKILLS

Programming Skills: Java, Python, R, MATLAB, SPSS, Qualtrics, SQL
Research Techniques: fMRI, TMS, Brainsight, Histology, Soldering
Languages: Mandarin (Native), English (Bilingual), Korean (Intermediate)