

# Sharon Wong

📞 901-949-9116    ✉️ [swong21@earlham.edu](mailto:swong21@earlham.edu)    🔗 [linkedin.com/in/juihsuan-sharon-wong/](https://www.linkedin.com/in/juihsuan-sharon-wong/)

## Education

### Earlham College

Bachelor of Art in Neuroscience and Computer Science (GPA: 3.96 / 4.00)

Expected May 2025

Richmond, IN

## Research Experience

### Research Assistant

Neuroscience, Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA

Jan 2024 – Present

Under Dr. Michael Platt

### Fox Company Project | Skill: Cogwear, OpenBCI (software) EEG-MNES.py

- Collaborated with the Wharton Neuroscience Initiative and Fox Media Company to apply EEG and eye-tracking technology for analyzing viewer engagement and predicting attention spikes in advertising contexts using OpenBCI's EEG-MNES.py software.
- Assisted in the collection of participant data employing Cogwear EEG devices.

### Pitches Entrepreneurship Project | Skills: B-Alert EEG System, PsychoPy EEG-MNES.py

- Edited 14 entrepreneurial pitch videos featured in Shark Tank, enhancing viewer engagement analysis.
- Managed the recruitment and data collection of 30 participants using the B-Alert X10 Wireless EEG System by using Implemented synchronization between B-Alert EEG systems and PsychoPy software, optimizing data integrity and accurate event marking for neuromarketing research.
- Processed EEG data using Independent Component Analysis (ICA) with MNE Python and MATLAB to extract event-related information.
- Analyzed Frontal alpha asymmetry across multiple subjects and videos, deriving insights into cognitive responses.

### Research Assistant

Physics, Earlham College, Richmond, IN

Aug 2022 – Present

Under Dr. Michael Lerner

- Conducted computational analysis of the Twist 1 gene network using Python and Ipycytoscape for graphing.
- Created weighted protein interaction nodes and observed their effects on overall network simulation.
- Stored 7,000 interaction data points into networks of protein-protein interactions and ProteinTransferfactor interactions.

### Research Assistant

Biomedical Engineering, Case Western Reserve University, Cleveland, OH

May – Aug 2023

Under Dr. Dustin Tyler

- Collaborated with Veterans Affairs on neuroengineering research to innovate in human fusion technology.
- Evaluated and contrasted two Arduino-based force sensory mechanisms for accurate force localization, incorporating CAD design, soldering, and Arduino setup in experimental designs.
- Conducted research on varied force levels to overcome challenges in receptive sensory fields and sensory thresholds, enhancing sensory device accuracy.

### Research Assistant

Computer Science, Earlham College, Richmond, IN

Jan – May 2023

Under Dr. Sofia Lemon

- Analyzed Anytime Weight A\* in Korf's puzzles domain to learn efficient limited memory heuristic search planning.
- Emphasized lower weight of the cost, resulting in longer search time, lower cost, higher quality, and lower coverage.

### Research Assistant Intern

Neuroscience, Indiana University School of Medicine, Indianapolis, IN

Jan – May 2023

Under Dr. Yadav P. Amol

- Trained 10+ rats with spinal cord electrodes to complete operating and discrimination tasks in behavior boxes.
- Performed MATLAB programming behavior task and analyzed data, e.g., receiver operating characteristic curves.
- Discovered rats' capability to differentiate artificial sensations during varying spinal cord stimulations.

### Research Assistant

Institute of Brain Science, National Yang-Ming Chiao Tung University, Taipei, Taiwan

May – Aug 2023

Under Dr. Shih-Chieh Lin

- Supported lab with mice brain preparation, including perfusion, sectioning, embedding, and microtomy operations.
- Managed Leica microscope setup for basal forebrain histology analysis.
- Maintained mice colony health, overseeing feeding, weight monitoring, and habitat cleanliness.

Presentation History

- Wong, J. H., & Yadav, A. P. (2022, July 26). Studying discrimination of artificial sensations induced by aperiodic spinal cord stimulation in rodents [Poster presentation]. *STARK Neuroscience Symposium 2022*, Indianapolis University School of Medicine, Indianapolis, IN.
- Wong, J. H., McGann, L., Jakes, R., & Tyler, D. (2023, July 26). Exploring the Effect of Contact Location on FSR and Piezoelectric Sensor Output to Transduce Rapidly- and Slowly-Adapting Tactile Feedback for Sensory Prostheses [Poster presentation]. *APT Symposium 2023*, Case Western Reserve University, Cleveland, OH.
- *Biomedical Engineering Society*. (2023, October 13). Seattle Convention Center, Seattle, WA.
- *Midwestern Psychological Association*. (2024, April 18). Palmer House Hilton Hotel, Chicago, IL

Professional Experience

<b>Pre-Health Peer Mentor</b> <i>Center of Global Health, Earlham College, Richmond, IN</i>	Aug 2022 – Present
<ul style="list-style-type: none"><li>• Orchestrated events for National Health Professions Week 23, contributing to the execution cycle by demonstrating leadership abilities and connecting with the local health-focused community of 30+ individuals.</li><li>• Fostered cross-functional relationships within the organization and collaborated as needed across regions to strengthen the impact of health-related initiatives.</li></ul>	
<b>Resident Assistant</b> <i>Office of Residence Life, Earlham College, Richmond, IN</i>	Aug 2022 – Dec 2023
<ul style="list-style-type: none"><li>• Enforced college policies to ensure safe and healthy living environment for 32 undergraduate students.</li><li>• Planned and executed community events aimed at promoting social interactions</li></ul>	
<b>Teacher Assistant in Research Methods and Statistics</b> <i>Department of Psychology, Earlham College, Richmond, IN</i>	Jan 2023– May 2023 <i>Under Dr. Kyle</i>
<ul style="list-style-type: none"><li>• Assessed students’ assignments and furnished them with constructive feedback.</li><li>• Instructed students in programming using languages such as R and Java.</li></ul>	

Leadership Experience

<b>Lead, Google Developer Student Club</b> <i>Earlham College, Richmond, IN</i>	July 2023 – Present
<ul style="list-style-type: none"><li>• Championed core teams and guided Cloud certification training, showcasing entrepreneurial leadership and project management expertise.</li><li>• Drove a remarkable 250% boost in club membership through strategic campus marketing initiatives, significantly enhancing user experience.</li></ul>	
<b>Department Representative</b> <i>Computer Science, Earlham College, Richmond, IN</i>	Aug 2023 – Present
<ul style="list-style-type: none"><li>• Organized departmental events and workshops to promote academic and professional growth.</li><li>• Facilitated effective communication between students and the department, enhancing cooperation and engagement.</li></ul>	

Honors & Awards

Charles A. Frueauff Foundation Award.	Apr. 2024
Epic Advantage Independent Student Research	Mar. 2024
Center for Entrepreneurship, Innovation, and Creativity Grant	Oct. 2023
Center for Global Education Travel Award	Oct. 2023
Center for Global Health Yunger Fellowship	May. 2023

Lab & Technical Skills

**Languages:** Python, R, Matlab, C, SQL, React.js, CSS, HTML, Markdown, Beam Search  
**Wet lab:** Microtome, Leica Microscopy, Rats/Mice handling, IR Spectroscopy, Gel Electrophoresis, Protein Purification, Titration, Bradford Assays, DNA Extraction, Western Blot, SDS-PAGE, CRISPR, Micropipette  
**Languages:**Mandarin (Native), English (Proficient)