Omozusi Guobadia

Email: oeguobadia@gmail.com

Phone: +1(281)748-8174

LinkedIn: www.linkedin.com/in/mozig

223 Charles Street

Cambridge, MA 02141

EDUCATION

Massachusetts Institute of Technology, Cambridge, MA
Master of Engineering, Neuroengineering, June 2025 — GPA: x.xx
Bachelor of Science, Electrical Engineering and Neuroscience, June 2023 — GPA: 3.63

RESEARCH FOCUS

Neural Fiber Development, Neural Recording, Brain-Machine Interfaces

PROJECTS

Preserving Axon Signal Transmission (Neuroengineering Research Project): Conducted literature research on preserving axon signal transmission post-lesion formation in the central nervous system; Proposed three potential solutions. Paper highlighted cell image resolution and glial-glial cell transmission key limitations of these approaches.

100-Node Discrete Hopfield Network (Neural Computation Project): Designed a 100-Node, Asynchronous Hopfield Network in PYTHON and examined the effects of differing pattern weights on the retrieval probability of the system. Also created synchronous version and examined effects on the speed of convergence.

Action Potential Differentiation on Frog Sciatic Nerves (Neurophysiology Experiment): Designed an in vitro electrophysiology experiment that examined voltage-power curve signature on action potential generation in animal models. Redesigned MATLAB scripts to implement varying curve models for experiment instrumentation.

Xilinx FPGA AR Card (Digital Design Project): Developed a system projecting interactive 3D figures onto an AR card's position on a monitor. Created a subprogram capable of detecting specific pixel RGB color concentrations in the camera frame, enabling the detection of the AR card's center of mass and angle deviation. Analyzed the FPGA's memory and signal processing utilization rates, implementing customized VERILOG code to meet project requirements.

SKILLS

Programming: Python, MATLAB, Julia Programming, C, Verilog LaTeX.
Engineering: CAD, Soldering and Test Equipment, Circuit Design, FPGA Digital Design, Data Analysis, Embedded Devices

EXPERIENCE

Undergraduate Research Assistant — Affective Brain Lab
August 2022 - December 2022 — Cambridge, MA
Developed a generalized linear machine learning model using lasso regression and trained a binomial classifier on MEG data provided by University College London researchers.

Hardware Developer Intern — IBM
June 2022 - August 2022 — Poughkeepsie, NY
Developed a comprehensive library of IC timers, SOICs, DIPs, temperature sensors, and other circuits utilized in industry-ready cards featured in the IBM Z Metis Mainframe through Cadence Allegro PCB Design software.

Undergraduate Research Assistant — MIT Media Lab
December 2021 - May 2022 — Cambridge, MA
Designed physical configuration of the AttentivU EEG headware through soldering, computer-aided design, and electrical validation testing.

AFFILIATIONS

Track and Field, Engine Team, NSBE