

First Name Last Name

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Education

University of Illinois at Chicago (UIC)

Bachelor of Science in Biomedical Engineering

Expected: **May 2025**

Skills

Computer: MATLAB, Simulink, Solidworks, Fusion 360, Microsoft Office, Arduino, LabVIEW, NI-MAX, Multi-Sim

Lab: Spectrophotometer, Microscope, Pipette, Breadboard, Oscilloscope, Multimeter, Anatomical Dissection

Language: Fluent in Spanish

Relevant Coursework: Biosystems Analysis, Neuroscience, Movement and Neural Control, Models of the Nervous System

Projects

MRI Phantom for the Preclinical Imaging Core Lab, Senior Design UIC, Chicago, IL

September 2023 - Present

Team Member

- Compiled physiological data regarding pre-existing phantoms and their calibrated standards within a clinical setting.
- Recorded data found in literature and proceeded to formulate a design plan based on the clinical needs of our sponsor.
- Developed a CAD model using OnShape that reflects physiological measurements and specifications for each of the phantoms' qualitative assurance properties set by the American College of Radiology Accreditation Program.
- Assisted team with verification and validation of phantom properties using MATLAB to measure MRI scans of each component.
- Delivered a presentation accompanied by a research poster at UIC Engineering EXPO 2023. Proceed to publish research in a reputable medical imaging journal, and begin a patent process with the university.

EMG Signal Acquisition System, Neural Engineering Lab, UIC, Chicago, IL

January 2024 - April 2024

Designer

- Collected neuronal frequency and average amplitudes to designate an appropriate gain value to amplify an original muscle flex signal.
- Constructed an analog circuit containing a bandwidth filter to isolate frequencies between 100-5000 Hz, and amplification system with gain of 2000. Proceeded to apply a rectification and smoothing stage on LabVIEW to ensure a higher SNR.
- Performed EMG acquisition trials on a test subject where the system recorded bicep activity and isolated action potentials with limited noise.

Model to Simulate Action Potential Post Spinal Cord Injury, UIC, Chicago, IL

September 2023 - December 2023

Team Member

- Gathered physiological data within published literature regarding spinal cord nerves, including average length, protein gate, and voltage constants upon trauma to the spinal canal.
 - Generated and tested a Matlab program that would decrease the diameter of a neuron upon impact at a designated time frame within the simulation.
 - Concurred with teammates on the efficacy of the program's function using real-time data with the supervising professor.
 - Contributed simulative and physiological data for an oral and discussion paper submitted for review.
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Work Experience

Walgreens, Chicago, IL

June 2023 - July 2024

Customer Service Associate

- Was responsible for assisting customers with the photo development system and would proceed to print and cut the various orders that came through the system.
 - Promoted the Walgreens credit card and successfully signed up customers, and helped customers find products across the store.
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Extracurricular Activities

Biomedical Engineering Society (BMES), UIC, Chicago, IL

October 2021 - Present

- Partake in meetings with students working in research and industry to engage in networking opportunities.
- Lead a prosthetic arm project and oversee student progress with their circuit design.
- Troubleshoot any function malfunctions in the motion control code using Arduino IDE, and run tests on the circuitry using a multimeter.