

First Name, Last Name

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Summary: Aspiring Biomedical engineer with experience in leading assistive medical device projects, who has proven the ability to formulate circuit and CAD schematics and further implementation based on group discussion and research, with the utmost desire to gain experience working in a professional, dynamic environment.

Education

University of Illinois at Chicago (UIC)

Expected Graduation Date: **May 2024**

Bachelor of Science in Biomedical Engineering

Skills

Computer: MATLAB, Simulink, Solidworks, Fusion 360, 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

Sep 2022 - 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

Jan-April 2023

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

Sept-Dec 2022

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 that was submitted for review.

Work Experience

Engineering Career Center (ECC), UIC, Chicago, IL

September 2021-Present

Peer Mentor/Front Desk

- Maintain the front desk and greet students who solicit the Career Center's services
- Assist Career Center advisers by reviewing submitted student resumes and providing them with feedback
- Update the Career Center's social media with information relevant to engineering jobs/internships and events

Walgreens, Chicago, IL

June 2022 - July 2023

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.

Extracurricular Activities

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

October 2020-Present

- Partake in meetings with students working in research and industry to engage in networking opportunities.
- Lead a prosthetic arm project and oversaw 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.