

# First Name and Last Name

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

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## Education

**University of Illinois at Chicago (UIC)**

Expected: **December 2023**

*Bachelor of Science in Biomedical Engineering*

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## Skills

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

**Technical:** 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

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## Projects

**MRI Clinical Device for UIC Lab, UIC, Chicago, IL**

**September 2022 - Present**

*Team Member*

- Compile physiological data regarding pre-existing phantoms and their calibrated standards within a clinical setting.
- Record live data during an MRI scan and proceed to formulate a design plan based on the clinical needs of our sponsor.
- Develop a model using Solidworks that reflects physiological measurements and specifications for each of the phantoms' qualitative assurance properties.
- Assist with developing a CAD model, followed by a 3-D printed version that will be used to assess our phantom in a clinical environment.
- Deliver a presentation to a group of sponsors, UIC BME faculty, and company representatives during EXPO 2023.

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

**September-December 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 with the supervising professor.
- Contributed simulative and physiological data for an oral and discussion paper that was submitted for review.

**Model of a Leg Test to detect Neuromuscular Disorder, UIC, Chicago, IL**

**February-March 2022**

*Model Designer*

- Researched physiological data based on clinical studies such as average leg length, mass and degree of inertia upon a horizontal leg drop.
- Designated numerical values to the 3 stated parameters and transposed the data into code using MATLAB.
- Designed a Simulink block model that expressed an experiment where the gathered values followed the mathematical dynamics expressed in the MATLAB code, reflecting the motion of a leg drop.
- Found the final steady state angles based on different stretch reflex values of the leg muscles that were inputted into the model, which determined whether a patient showed signs of Neuromuscular deficiency.

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## 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

**Cook County Forest Preserve, Cook County, IL**

**October 2017-April 2018**

*Forest Volunteer*

- Identified, and reported any invasive plant species across an acre of land belonging to the Forest Preserve
- Disposed the invasive plant roots by way of cutting down the individual plants and proceeding to place them in a fire

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## 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 ran tests on the circuitry using a multimeter.