

DAVID SPIELMAN

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EDUCATION

Macaulay Honors College at The City College of New York December 2022
Bachelor of Engineering in Mechanical Engineering GPA: 3.8

- Honors & Awards: Macaulay Scholar (Four-Year Merit Scholarship), Dean's List (Spring 2019, Fall 2019, Spring 2020)

TECHNICAL SKILLS

- Software:** Robot Operating System (ROS), Gazebo Simulator, SolidWorks, Microsoft Office
- Operating Systems:** Windows, macOS, Ubuntu
- Programming Languages:** Python, MATLAB
- Languages:** Fluent in Russian

RESEARCH EXPERIENCE

Biomechatronics and Intelligent Robotics Lab, The City College of New York October 2020-July 2021
Undergraduate Research Assistant - Robotic Simulation

Principle Investigator: Dr. Hao Su; Mentor: Dr. Antonio Di Lallo

- Simulated the behavior of a servo-actuated configurable robot utilizing the Robot Operating System and the Gazebo Simulator in a team of two
- Developed custom URDF files of the parallel robot whose joints can be controlled via keyboard teleoperation using a custom python script, a custom MATLAB script that accepts user-defined joint angles, the joint state publisher GUI interface in Rviz, and a custom UI made with python
- Tuned PID gains for ROS joint position controllers and adjusted simulation physics to ensure smooth and realistic motion of the robot

Biomedical Engineering Department, The City College of New York February 2019-March 2020
Undergraduate Research Assistant, Ultrasound Stimulation Device

Principle Investigator: Dr. Luis Cardoso

- Conducted literature review of research papers on low-intensity pulsed ultrasound stimulation of mesenchymal stem cells to define design parameters and address experimental limitations
- Utilized SolidWorks to design device used to stimulate mesenchymal stem cells with low-intensity pulsed ultrasound
- Manufactured and built stimulation device in collaboration with Dr. Cardoso to standardize the methodology used to analyze stem cell differentiation under low-intensity pulsed ultrasound

PROJECTS

Computer Aided Drafting Course, The City College of New York September 2019-December 2019

Reverse Engineering

- Applied the principles of reverse engineering to create a technical sketch of a battery-operated nail dryer fan to better understand the fundamentals of product design
- Collaborated with a team to create a representation of the nail dryer fan as a single SolidWorks feature to develop technical facility creating SolidWorks features
- Implemented design modifications by removing DC power jack to cut manufacturing costs by 4%

AFFILIATIONS

President, Macaulay Musicians' Collective August 2020-Present
Student Member, Biomedical Engineering Society (BMES) August 2020-Present
Student Member, American Society of Mechanical Engineers (ASME) February 2020-Present