DAVID SPIELMAN

david.spielman7@gmail.com | 347-893-5038 | linkedin.com/in/david-spielman/ | davidspielman.me

EDUCATION

Macaulay Honors College at The City College of New York **2018-2022**
Bachelor of Engineering in Mechanical Engineering GPA: 3.85

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

TECHNICAL SKILLS

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

WORK EXPERIENCE

Southwest Research Institute, Manufacturing and Robotics Technologies Department **June 2022-August 2022**
Student Engineer

- Utilized ROS, ROS-Industrial packages, and proprietary motion planning frameworks to contribute to and debug automated robotics solutions for industrial manufacturing applications
- Developed an automated robotic solution interfacing proprietary motion planning frameworks with custom robotics hardware in a team of three
- Led demonstrations of robotic software solutions and technologies to nontechnical audiences to promote institute research and work

RESEARCH EXPERIENCE

Biomechatronics and Intelligent Robotics Lab, The City College of New York **October 2020-July 2021**
Undergraduate Research Assistant - Robotic Simulation
Principal Investigator: Dr. Hao Su

- 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
Principal Investigator: Dr. Luis Cardoso

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

PROFESSIONAL DEVELOPMENT

Workforce Development Program
L'SPACE NASA Proposal Writing and Evaluation Experience (NPWEE) **September 2021-December 2021**

- Developed a seven-page concept proposal in a team of seven to address a NASA pain point during space exploration
- Learned the fundamentals of proposal writing, proposal evaluation and review

AFFILIATIONS

President, Macaulay Musicians' Collective August 2020- December 2022
Student Member, American Society of Mechanical Engineers (ASME) February 2020-December 2022