GABRIELLE CONARD

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OBJECTIVE

Robotics engineering M.S. student seeking a summer internship focused on robotic locomotion, mechatronics, or human-robot interaction, utilizing design, programming, and research skills.

EDUCATION

Worcester Polytechnic Institute, Worcester, MA
Master of Science in Robotics Engineering
May 2023 (Expected)

Lafayette College, Easton, PA
Bachelor of Science in Mechanical Engineering, Minor in Physics
June 2021 - Overall GPA: 3.96 (Summa Cum Laude, Honors in Mechanical Engineering)

SKILLS

Software: Python, ROS, MATLAB, Arduino, Java, GitHub, Inventor, Fusion 360, SolidWorks, GibbsCAM, Microsoft Word, Excel, PowerPoint
Technical: 3D printing, soldering, PCB design, basic proficiency with manual and CNC mills, lathes, and other equipment

RELEVANT EXPERIENCE AND PROJECTS

NSF Graduate Research Fellow | Worcester Polytechnic Institute – Worcester, MA
Graduate Research Fellow in the Soft Robotics Lab, Fall 2021 – present

- Quadruped Team: Collaborating with a team of graduate students to develop a soft quadruped robot with a flexible spine. Responsible for designing inverse kinematics and control algorithms
- Salamander Team: Aiding in the design and control of a soft salamander-inspired robot being developed by an undergraduate senior Major Qualifying Project team
- Wearable Assistive Device: Designing a wearable device to assist those with hearing loss

Honors Thesis Student (2020-2021) | Lafayette College - Easton, PA
A Step Forward: Investigating Dynamic Stability in a Low-Cost Quadruped Robot

- Developed basic autonomous navigation to avoid the edge of a table
- Characterized IR detectors and custom force sensors
- Developed a simulation environment in Webots for rapid software development and testing
- Investigated novel control methods for dynamic balancing and disturbance recovery

Independent Study and Excel Research Scholar Program | Lafayette College - Easton, PA
Independent Study Student, Spring 2020 | Excel Research Scholar, Summer 2020

- Constructed a low-cost quadruped robot in preparation for senior thesis project
- Designed custom printed circuit boards, 3D-printed parts, and force sensors in each foot
- Developed Python and Arduino software to implement active compliance and walking gaits

Clare Boothe Luce (CBL) Research Scholar Program | Lafayette College - Easton, PA
CBL Research Scholar: Quadruped Robotics Research, Summer 2019

- Developed a quadruped robot based on the open-source project openDog by James Bruton with another student and mechanical engineering professor
- Wrote Python scripts using ROS to develop base code and walking mechanisms
- Modified and designed various components of the hip and leg systems

ADDITIONAL EXPERIENCE

Academic Resource Hub | Lafayette College - Easton, PA
CRLA Level I Certified Peer Tutor for Physics and Engineering, Spring 2018 – Spring 2021
Supplemental Instructor for Physics I, Spring 2020

ACADEMIC HONORS

Tau Beta Pi, Pennsylvania Epsilon Chapter: November 2019
William G. McLean Tau Beta Pi Prize: Spring 2019
Marquis Scholar, Lafayette's second highest academic scholarship: Fall 2017 – Spring 2021

ACTIVITIES

Lafayette DiscipleMakers Christian Fellowship:
Oversight Team (Communications Director), Fall 2020 – Spring 2021 (Member since fall 2017)
Easton Pen Pal Program: Pen Pal with a local elementary school student, 2019 – 2021