

# GABRIELLE CONARD

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## EDUCATION

**Lafayette College**, Easton, PA

Bachelor of Science in Mechanical Engineering, June 2021

Minor in Physics

Overall GPA: 3.96

## SKILLS

**Software:** Python (ROS), MATLAB, Arduino, Java, GitHub, Inventor, Fusion 360, 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

**Honors Thesis Student (2020-2021) | Lafayette College** - Easton, PA

Stepping Up: Investigating Dynamic Stability in a Low-Cost Quadruped Robot

- Improved walking gait and implemented turning and backwards walking in Arduino
- Began development of autonomous navigation to avoid the edge of a table
- Characterizing IR and ultrasonic detectors to identify obstacles, such as a step

**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 printed circuit boards, 3D-printed parts, and force sensors in each foot
- Developed software in Python and Arduino to implement active compliance and walking mechanisms

**ME 210: Manufacturing and Design | Lafayette College** - Easton, PA

MATLAB Analyst and Braking System Designer, Fall 2019

- Developed a semi-autonomous car to complete a race track with a team of 4 students
- Designed the braking system and contributed to other subsystems' designs
- Used MATLAB to predict and evaluate the car's performance

**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 walking mechanisms that laid the groundwork for the 2019-2020 Lafayette OpenDog Senior Design Team
- 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, Spring 2018 – Fall 2019, Fall 2020

- Provide individual tutoring for students in several physics and engineering courses

Supplemental Instructor for Physics I, Spring 2020

- Led group sessions to reinforce concepts and applications of course content and held drop-in sessions to work individually with students

## ACADEMIC HONORS

Tau Beta Pi: Initiated Fall 2019

Dean's List: All Semesters

William G. McLean Tau Beta Pi Prize: Spring 2019

Marquis Scholar, Lafayette's second highest academic scholarship: Fall 2017 – present

## ACTIVITIES

Lafayette DiscipleMakers Christian Fellowship:

Oversight Team (Communications Director), Fall 2020 – present (Member since fall 2017)

Tau Beta Pi, Pennsylvania Epsilon Chapter: Member, 2019 – present

Easton Pen Pal Program: Pen Pal with a local elementary school student, 2019 – present

Marquis Players (Theater Club): Build and Lights Crew Member, Spring 2019