**INGRID RUMBAUGH**

[rumbaugi@lafayette.edu](mailto:rumbaugi@lafayette.edu), (484) 599-1173

Lafayette College, Box #8794 254 Ziegler Rd

111 Quad Drive, Easton PA 18042 Leesport, PA 19533

**OBJECTIVE**

To work as a robotics engineer leveraging my engineering and programming skills. I enjoy the entire life cycle of systems development: conceptualize, design, build, test, and maintain robotic systems. I strive to continually improve my programming and engineering skills, working in a team to develop robotic prototypes. I have a special interest in machine learning algorithms with recent research in using Histogram of Oriented Gradients to train a Linear Support Vector Machine (SVM) to identify unique objects.

**EDUCATION**

**Lafayette College,** Easton, PA. Class of 2019 GPA: 3.32

**B.S. Mechanical Engineering & Computer Science Minor Dean’s List,** Fall 2014

**WORK EXPERIENCE**

**Technical Intern, Active Orbital Debris Removal, Integrity Applications Inc.,** Chantilly, VA **Summer 2017**

Researched possible solutions for remediation of orbital debris. Created combined metrics to characterize and measure effectiveness of Active Debris Removal (ADR), and conducted a trade study evaluating ADR solutions.

**Technical Robotics Intern, Integrity Applications Inc.,** Chantilly, VA **Summer 2016**

Designed, built, and tested a working autonomous robot prototype. Participated in 3D CAD modeling, system requirements documentation, engineering notebook, and all programming. Contributed to a hologram imaging program by designing holograms for potential use in the Museum of the Bible.

**Business Continuity Analyst/ FIRST Intern, Comcast Cable,** Philadelphia, PA **Summer 2014 & 2015**

Helped develop FIRST robotics sponsorship program and website. Planned and coordinated Comcast events and helped plan the WICT (Women in Cable Technology) 2015 Tech it Out! Conference (July 23, 2015).

**SKILLS**

**Software:**  Java, C++, Arduino, Matlab, Python, ARMv8 Assembly, Autodesk Inventor, ANSYS, Linux, UML, Robot Operating System (ROS), OpenCV, Computer Vision & Basic Image Processing, Oracle VirtualBox

**Hardware:** Power tools, Machine Shop skills, 3D Printers, Soldering, Welding (MIG, Flux Core)

**Other:** Organization, Leadership, Robotics, Project Management, Gantt Charts, Agile Project Management, Histogram of Oriented Gradients (HOG), Linear Support Vector Machines (SVMs)

**ENGINEERING EXPERIENCE**

**FIRST FTC/FRC Robotics Teams** (**F**or **I**nspiration and **R**ecognition of **S**cience & **T**echnology, see usfirst.org)

Established and led multiple state-champion robotics teams. Worked with other team members and other teams to solve engineering problems creatively. Responsible for 5+ robotic system designs winning multiple design & engineering awards in PA from 2011 – 2014. Serves as a robot inspector and field tech advisor.

**Engineering Notebooks & Technical Writing**

Spearheaded an award-winning engineering notebook at the state championship level and taught other team members that documentation is key.

**Published a collaborative paper on Automated Intelligent Systems for the Naval Academy Science and Engineering Conference in 2014.**

**Holds a Top Secret Security Clearance**

**LEADERSHIP EXPERIENCE**

**Team Leader, Senior Design Project**, HAZMAT Assistance Robot, Lafayette College, Easton, PA **Fall 2017 – Spring 2018**

Led a design team to produce a successful robotic prototype on time and under budget, while meeting most of the original design requirements. In addition, ran weekly team meetings, as well as organized design reports and presentations. Kept track of team progress through Gantt charts and sub-team meetings. Facilitated discussions on design decisions, making sure that all team members were able to contribute, and that a mutual agreement was reached.

**President, ASME**, Lafayette College, Easton, PA **Spring 2016 – Fall 2017**

Lead the campus organization by coordinating events, speakers, and engineering clubs. Handled ASME presence on campus and relationships with other engineering organizations.

**Leader, ASME Robotics Team,** Lafayette College, Easton, PA **Fall 2015 to present**

Designs and develops projects for the ASME robotics team focused on teaching, building, programming, and design skills to new students. In charge of keeping track of team progress, purchase orders, and teaching new members both programming and mechanical skills.

**AWARDS**

**Mechanical Engineering Design –** Lafayette College, awarded for an outstanding senior capstone design project. Received this award for helping a senior design team during my sophomore year at Lafayette College.

**FIRST Dean’s List Finalist, World Championship –** Recognized for technical contributions to the team as well as organizational skills and community outreach.