William Laney

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Work Experience

Carnegie Robotics **Pittsburgh, PA**
Electrical Engineer *Jun 2020-Present*

- Designed high speed and power system printed circuit boards (PCBs) in Altium
- Developed applications in C to run in an embedded Linux environment
- Performed system level electrical design for novel robotic products
- Worked with digital communication protocols including Ethernet, I^2C, SPI, CAN, and RS-232
- Participated in rapid prototyping efforts to quickly gather real world data and iterate designs
- Experienced with full product life cycles, from advanced R&D to manufacturing and full rate production
- Involvement in designs across multiple industries including recreational boating, pipe inspection, and military
- Collaborated with Mechanical and Software engineering teams to deliver tightly integrated solutions

Test Engineer *Apr 2018-Aug 2019*

- Designed and deployed PCB and system level test fixtures
- Wrote testing frameworks and applications in Python
- Developed PCBs with Altium to support testing
- Performed electrical and software debugging
- Communicated with customers and product designers to determine testing criteria
- Interfaced between Engineering, Production, and Quality departments to resolve manufacturing issues
- Created ISO compliant work instructions and documentation

Education

Cornell University **Ithaca, NY**
M.Eng. Electrical and Computer Engineering *Aug 2019-Jun 2020*

- GPA: 4.0
- Designed novel pattern projector systems for stereo image matching in partnership with Carnegie Robotics
- Selected Coursework: Autonomous Mobile Robotics, Computer Vision, Human-Robot Interaction, RF Systems

College of William & Mary **Williamsburg, VA**
B.S. Cum Laude, Physics with Honors; Mathematics minor *Aug 2014-Jan 2018*

- GPA: 3.6, Dean's List, Alumni Research Prize in Physics
- President, William & Mary Robotics Club
- Electronics Group Leader, TribeSat satellite development program

Research Experience

Sharkduino **Williamsburg, VA**
Student Researcher / William & Mary Research Experience for Undergraduates (REU) *May 2015-Dec 2017*

- Developed and prototyped a low power accelerometer and gyroscope-based sensor system
- Conducted deployments of the system on live animals in a semi-controlled environment
- Designed PCBs with Eagle, performed data validation and analysis in MATLAB and R
- Led a team of six students in developing hardware, software, and data analysis

Technical Skills

Software: Altium, C, Python, MATLAB, BASH, Linux, PetaLinux, ROS, Git, Mercurial, LaTeX
Hardware: Oscilloscope, Logic Analyzer, Function Generator, Digital Multimeter, Soldering, 3D printing

Activities and Organizations

Hiking, Backpacking, Photography, Rock Climbing, AEΠ fraternity, Eagle Scout