Jillian Hornby

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PROFESSIONAL EXPERIENCE

Burns & McDonnell   **Morristown, NJ**
Electrical Engineering Intern - Aviation & Federal   *June 2024 - August 2024*
- Utilized Revit and AutoCAD to design power, lighting, communication, and grounding systems for commercial airline, Department of Defense, and Department of Energy facilities
- Developed floor and site plans in conjunction with mechanical, structural, and civil teams, along with one-line diagrams and enlarged views of electrical equipment

Crum & Forster   **Morristown, NJ**
Data Science Intern   *May 2023 - August 2023*
- Utilized Python and SQL programming skills to develop and maintain APIs using actuarial rating algorithms
- Used AWS to deploy new web services for use by multiple teams throughout the company and thoroughly tested their capabilities using Postman and AWS logs

Mathnasium   **Denville, NJ**
Math Instructor   *February 2021 - December 2022*

LEADERSHIP AND EXTRACURRICULARS

Vanderbilt Aerospace Design Lab   **Nashville, TN**
Electrical Engineer   *July 2024 - present*
- Work on an interdisciplinary team to design electrical and RF systems for a rocket-flyable payload that transmits sensor data as a part of the NASA Student Launch competition
- Assist as an outreach chair to teach students from elementary through highschool age in Nashville about aerospace engineering

Vanderbilt University Photonics - Weiss Group   **Nashville, TN**
Undergraduate Researcher   *November 2023 - present*
- Collaborate with graduate students to enhance silicon biosensor performance by collecting data from porous silicon chips and detecting structural changes
- Explore photonic integrated circuits and radiation effects on photonic devices
- Developed a machine learning algorithm using Python to analyze RGB data from iPhone videos of biosensors in conjunction with wavelength values from a spectrometer to provide a way for an iPhone to determine medical diagnostics

Vanderbilt Design Studio   **Nashville, TN**
Design Studio Mentor   *September 2023 - present*
- Supervise engineering students by providing assistance with 3D-printing, circuit design and soldering, and the use of power tools

TOM: Makeathon   **Nashville, TN**
Engineering Team Leader, Maker Recruitment Chair   *August 2022 - present*
- Executive board member responsible for maker recruitment, successfully recruiting 100+ members to participate in a hands-on engineering club that creates affordable and customized products for disabled individuals
- Led a team of 10 engineers during a Makeathon to modify a recumbent bike for an adult with limited hand mobility due to a stroke by altering the placement of the gears and the brakes, and building a new platform to support these changes
- Worked on 3 "Go Baby Go" projects by re-doing the electrical systems and adding extra safety features in childrens' cars to allow pediatric disabled clients to independently move around

Mountain Lakes Fire Department   **Mountain Lakes, NJ**
Junior Volunteer Firefighter   *March 2020 - June 2022*

EDUCATION

Vanderbilt University   **Nashville, TN**
B. Eng. in Electrical & Computer Engineering | Minor in Mathematics   *August 2022 - May 2026*
- Relevant Coursework: VLSI Design, Electronics, Analog Circuits, Digital Circuits, Intermediate Software Design (C++), Data Structures (C++), Imaging Techniques in Nanoscale Engineering, Rapid Prototyping, Engineering for Surgery (Python)

Mountain Lakes High School   **Mountain Lakes, NJ**
- Salutatorian, National Merit Scholar, U.S. Marine Corps Scholastic Excellence Award, Captain of Cross Country and Track teams

SKILLS

Programming Languages: C++, Python, Java, MATLAB, SQL, Dynamo BIM, Verilog
Software: Cadence Virtuoso, LTSpice, Altium Designer, AutoCAD, Autodesk Revit, Quartus, Autodesk Fusion 360, AWS, Postman, Microsoft Excel
Certifications: Amateur Radio Technician License, OSHA 10-Hour Construction