

Marissa Blair Schwarz

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DoD Secret Clearance: Issued 2021

EDUCATION

Vanderbilt University School of Engineering (Nashville, TN)

Bachelor of Engineering in Mechanical Engineering, Bachelor of Science in Mathematics (May 2022)

RELEVANT COURSEWORK

| | | |
|------------------------|--------------------------------------|-----------------------------|
| Nonlinear Optimization | How to Make (Almost) Anything | Energetics |
| Aerospace Propulsion | Programming Design & Data Structures | Intro to Numerical Analysis |

PROFESSIONAL EXPERIENCE

Laboratory for Systems Integrity & Reliability, Nashville, TN

Fall 2021

Undergraduate Researcher

- Honeywell sponsored research to develop finite element analysis algorithm using Abaqus software to test satellite durability
- Complete Modal Analysis on satellite systems to test against Finite Element Analysis

Vanderbilt Aerospace Design Laboratory (VADL), Nashville, TN

May 2021 – Present

Simulations and Systems Lead Engineer

- Member of a historically successful (7-time national championship) rocketry team competing in NASA's University Student Launch Initiative (USLI)
- Design, build, and test a rocket and payload that reflects major challenges in modern space exploration
- Creating and testing rocket trajectory and parachute recovery simulations using MATLAB

Northrop Grumman, Roy, UT

Summer 2021

Command and Launch Engineering Intern

- Work in CPLM and NX to design and support fabrication of shock isolation systems
- Use JIRA to support agile environment
- Investigated a secured area to field test specialized equipment to assess discrepancies
- Deliver instructional presentations to advance design and construction process

Institute for Software Integrated Systems, Vanderbilt University, Nashville, TN

Jan. 2020 – Aug. 2020

Research Assistant and Curriculum Developer

- Develop lesson plans and programs on NetsBlox, a custom block-based visual programming language
- Use Remote Programming Procedures to expand NetsBlox capabilities

Vanderbilt University, Electrical Engineering and CS Department, Nashville, TN

Jan. 2020 - Present

Teaching Assistant/Grader for Introduction to Programming Class With MATLAB

- Proctor and grade exams, conduct weekly office hours, and facilitate study groups
- Critique the professor's original lecture videos regarding extensive MATLAB programming

LEADERSHIP EXPERIENCE

Tikkun Olam Makers, Nashville, TN

January 2020- Present

Executive Board Member/ Community Outreach Chair

- Communicate with the Vanderbilt and local Nashville community to orchestrate the non-profit organization's "make-a-thon"
- Engineer prototypes to create accessible solutions to everyday challenges that people with disabilities face

Society of Women Engineers, Nashville, TN

August 2019 – Present

Board Member, Class Representative

TECHNICAL SKILLS & INTERESTS

- **Languages:** MATLAB – Proficient, LabVIEW, Arduino, Python- Familiar
- **Programs:** Teamcenter, CPLM – Proficient, JIRA, DOORS, Cameo –Familiar
- **Design:** Creo Parametric, NX, Abaqus – Proficient
- **Other:** OpenRocket, RocketSims - Proficient