

Elizabeth Ziemer

 ziemereg@rose-hulman.edu  ascii.garden  Chicago, IL

Education

B.S. in Engineering Design

Aug 2021 - Present

Rose-Hulman Institute of Technology

Terre Haute, IN

~ Minor in Electrical Engineering. *Relevant Coursework:* Intro to Signal Processing, DC/AC Circuits, Power Systems, Probability w/ Statistics, Differential Equations I & II, Embedded Systems

Experience

Engineering Intern

June 2024 - August 2024

SpaceX, Dragon

Cape Canaveral, Florida

- ~ Developed a software backend/frontend for dynamic prescription of flight hardware (SQL/Python/Pandas)
- ~ Developed RF shielding for on-vehicle avionics system tests
- ~ Root-cause investigation concerning life support systems and associated hardware
- ~ fram2 thing that may be public someday, but also maybe not

Visiting Undergraduate Student

January 2024 - February 2024

Commnet Laboratory, Northwestern University

Evanston, Illinois

- ~ Engaged in research on topics of cognitive radio and dynamic spectrum sharing, implicating development of TensorFlow applications in Python
- ~ Configured SDR hardware with the OpenAirNetwork 5G platform and updated MATLAB experiments for Northwestern's EE307 course

Engineering Intern

June 2023 - August 2023

SpaceX, Starlink

Hawthorne, California

- ~ Led a high-impact investigation on phased array RF characteristics, implicating antenna theory, materials, and antenna calibration software. The resolution led to a ~4% FPY increase
- ~ Developed a Python library for comprehension of RF calibration data and failure modes. Involved large-scale processing of raw RF data through self-written data processing stacks
- ~ Contributed to root cause failure mode work on current and next-gen Starlink products

Software Engineering Intern

June 2022 - August 2022

Kratos Defense

Colorado Springs, Colorado

- ~ Wrote robust drivers for the characterization and use of RF hardware
- ~ Contributed to the internal test system Python library, widely utilizing OOP principles
- ~ Spearheaded research and implementation of RedHat OpenStack deployment

Projects and Leadership

- ~ President, Rose Tech Radio Club: On-campus organization dedicated to student exploration of electronics, radio, community service, analog/digital RF and signal processing technology
- ~ Volunteer for *FIRST* Robotics Challenge and Tech Challenge events serving middle and high school students
- ~ Founding member and participant of the 'NIBBB', local electronics club that designed a balloon with GPS data and WSPR (FSK) transmissions that circled the globe. This balloon was confirmed to be erroneously shot down by the United States Air Force (2021-2023)
- ~ Collaborated with NASA Student Launch team to create a payload direction finding system (2022)
- ~ Other skills: Python (Pandas), Java, C, MATLAB, SQL, Linux, OpenStack, Git, GNU Radio, LaTeX