Elizabeth Ziemer

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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

~ 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

~ 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
~ 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