

Erik Lytle

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EDUCATION

University of Michigan, Ann Arbor

Bachelor of Science Engineering in Computer Science Engineering

Minor in Interdisciplinary Astronomy

Ann Arbor, MI

August 2020 – May 2024

- **GPA: 3.78 / 4.00**

- Relevant Coursework: Operating Systems, Computer Networks, Databases, Web Systems, Data Structures & Algorithms, Programming Paradigms, Applied Computational Machine Learning, Computational Linear Algebra

WORK EXPERIENCE

NASA Jet Propulsion Laboratory

Software Engineering Intern

Pasadena, CA

October 2023 – April 2024

- Designed a multi-mission data model of a spacecraft in Java for new missions to use in the Aerie spacecraft activity planning, resource simulation, and command sequencing software framework

Mars Curiosity Rover Mobility and Mechanisms Intern

May 2023 – July 2023

- Designed, developed, and implemented data visualization dashboard for the Mobility subsystem. Condensed 20 manual analysis processes into a single automated webpage
- Improved operational efficiency by 98% in trending rover mobility metrics, for use in mission-wide performance presentations
- Created webpage environment containing 14 key performance metrics, including elevation change and distance traveled, to efficiently communicate trending data to the team and inform long-term mobility traverse decisions utilizing Elasticsearch, JavaScript, Python, and HTML

University of Michigan Astronomy Department

Research Assistant

Ann Arbor, MI

September 2022 – May 2023

- Optimized dust scattering halo processing algorithms in Python to improve performance ahead of the Japanese Space Agency's XRISM spacecraft's launch
- Designed and implemented web application using a REST API that allows researchers to perform computationally intensive analyses from local files without the need to download additional software

Michigan Anesthesiology Informatics Systems Exchange

Software Engineering Intern

Ann Arbor, MI

June 2021 – September 2022

- Designed and developed mobile application platform for MAISE using the Flutter framework to transition MAISE's web based patient systems to a mobile format for better patient access
- Built back-end architecture using the Flask framework to support data processing and input from patients
- Implemented an internal faculty and staff contacts page with a search feature using custom Dart widgets

PROJECT EXPERIENCE

Michigan Mars Rover Team

Software Engineer

Ann Arbor, MI

August 2020 – August 2023

- Overhauled the rover's six graphical user interfaces leveraging Vue.js to improve style and readability
- Collaborated with five subsystems to detail new capabilities to meet the technical needs for the user interface
- Achieved 1st place at both the University Rover Challenge and the Canadian International Rover Challenge in 2022, where the user interface was used by team members to successfully control and receive feedback from the rover

EECS 485

Search Engine

Ann Arbor, MI

November 2022 – December 2022

- Built a scalable search engine with text analysis using tf-idf and link analysis using the PageRank algorithm
- Created a segmented inverted index of web pages using a pipeline of MapReduce programs with parallel data processing
- Developed a Service-Oriented Architecture to scale dynamic pages with a REST API app to return search results

SKILLS

Languages: C/C++, Python, JavaScript, SQL, Java, Dart, Julia

Frameworks: Flask, React.js, Vue.js, Flutter, Elasticsearch

Technologies: HTML/CSS, Linux, Git, VS Code, Xcode

Other: Project Management, Adaptability, Presentation, Data Visualization