

Erik Lytle

elytle@umich.edu • (248) 884-3996 • Ann Arbor, MI

EDUCATION

University of Michigan

Ann Arbor, MI

Bachelor of Science Engineering in Computer Science Engineering

Minor in Interdisciplinary Astronomy

Aug 2020 – Apr 2024

GPA: 3.73 / 4.00

Coursework: Web Systems, Data Structures & Algorithms, Foundations of Computer Science, Applied Computational Machine Learning, Theory of Computation, Computational Linear Algebra

WORK EXPERIENCE

University of Michigan Astronomy Department

Ann Arbor, MI

Research Assistant

Sep 2022 – Present

- Implemented various optimizations to the dust scattering halo processing algorithms in Python to improve performance ahead of the XRISM launch in 2023
- Devised and built a web application using a REST API to allow researchers to run calculations and receive results from their own data files

Michigan Anesthesiology Informatics Systems Exchange

Ann Arbor, MI

Software Engineering Intern

Jun 2021 – Sep 2022

- Designed and developed a 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
- Adapted dynamic forms for patient input from web to the mobile application format
- Implemented an internal faculty and staff contacts page with a search feature using custom Dart widgets

PROJECT EXPERIENCE

Michigan Mars Rover Team

Ann Arbor, MI

Software Engineer

Aug 2020 – Present

- Overhauled the rover's six graphical user interfaces using Vue.js, HTML, CSS, and JavaScript to improve style and readability
- Collaborated with five other subteams to detail new features and capabilities to meet the team's technical needs for the user interface
- Modified the inverse kinematics algorithms used to control the robotic arm to improve accuracy and efficiency
- Achieved 1st place at both the University Rover Competition and the Canadian International Rover Competition in 2022, where the user interface was used by team members to successfully control and receive feedback from the rover

EECS 485

Ann Arbor, MI

Search Engine

Nov 2022 – Dec 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

Instagram Clone

Sep 2022 – Oct 2022

- Implemented a full-stack Instagram clone using HTML, CSS, Python, Flask, React.js, and SQL
- Created a client-side and server-side dynamic pages site that renders templates on demand and updates data without refreshing as the client interacts with the page
- Managed a user's login status by utilizing hashed passwords and storing session cookies

SKILLS

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

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

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