Ethan Voth

Website: ethanvoth.com | GitHub: github.com/evoth
Monument, Colorado | (719) 394-6704 | ethanvoth1@gmail.com

EDUCATION

University of Central Florida, Burnett Honors College August 2021 – May 2025
Bachelor of Science in Computer Science, 3.97 GPA *Orlando, Florida*

- Awarded Benacquisto Scholarship as a National Merit Scholar
- Completed coursework in Data Structures and Algorithms, Object Oriented Software Development, Cybersecurity, Discrete Computational Structures, Programming Languages, Statistics, Calculus I-III Mathematics

TECHNICAL SKILLS

Programming Languages: Python, C, C++, Java, JavaScript/TypeScript
Technologies and Frameworks: Git/GitHub, HTML and CSS, React, React Native, Svelte, Flutter (Dart), Hugo SSG

WORK EXPERIENCE

The MITRE Corporation October 2023 – December 2023
Software Engineering Internship *Remote*

- Investigating the use of generative AI to accelerate implementation of algorithms from technical manuals
- Augmenting an existing AI code generation framework to add incremental codebase development capabilities

The MITRE Corporation May 2023 – July 2023
Software Engineering Internship *Colorado Springs, CO*

- Developed Python prototype of a legacy rate track satellite detection algorithm for ground-based telescopes
- Modified the algorithm to include synthetic rate tracking, which provided a 7% detection accuracy improvement
- Presented prototype and findings to inform government decisions on funding for future software upgrades
- Worked with team to discuss improvements, assist with live telescope collect, and develop analysis methodology

Colorado School of Mines June 2021 – August 2021
Computer Science Internship *Remote*

- Learned statistics and optimization concepts necessary for an understanding of machine learning
- Gained insight into the research process by reading and editing technical papers

PERSONAL PROJECTS

Webbster – Astronomical Image Processing Program August 2022 – November 2022
Python (Astropy, scikit-image) *GitHub repo*

- Aligns multiple FITS images from the NASA JWST using their built-in WCS headers so that they can be layered
- Stretches the contrast of each layer using adaptive histogram equalization to reveal the detail in the raw data
- Colorizes each monochrome layer based on the properties of its NIRCAM filter and blends them into one image

HouseHold – Cross-Platform Household Management App February 2023 – April 2023
React Native + Amazon Amplify *GitHub repo*

- Created as part of an 8-person Agile team, using Jira to coordinate responsibilities, tasking, and sprints
- Authenticates users with AWS Cognito, supporting login and registration with email verification codes
- Utilizes custom GraphQL queries and subscriptions to update data in real-time across users and devices

GoPro Video Sync – Telemetry-Based Video Sync Tool February 2023 – March 2023
Python (MP4 parsing, scipy) *GitHub repo*

- Parses the GoPro Metadata Format (GPMF) track of an MP4 file, extracting gyroscope and accelerometer data
- Compares the sensor signals from two jointly-mounted cameras, using cross-correlation to determine the offset between the two videos, which can be used to sync the videos without relying on visual or audio cues

Ethan Voth
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February 4, 2024

Keysight Technologies
1900 Garden of the Gods Rd.
Colorado Springs, CO 80907

To Whom It May Concern:

I am writing to express my strong interest in the Full Stack Development Intern position at the Colorado Springs location, as posted on your website. As a third-year computer science student with a continual enthusiasm for learning about and using new technologies, whether in my personal or professional projects, I believe that my skills, experience, and desire to grow will enable me to make a meaningful contribution towards Keysight's mission of connecting and securing the world.

Throughout my education at the University of Central Florida, I have had exposure to a variety of computer science topics, from data structures and algorithms to object-oriented programming, to databases and various web technologies. Additionally, I have completed numerous class projects, including working on an 8-person Agile team to create a full-stack household management website and app using the Amazon Amplify ecosystem with React and React Native. Working on these projects has improved my ability to effectively collaborate with teammates and express ideas to people with various levels of experience.

During my internships at MITRE, I have had the opportunity to investigate the use of generative AI to accelerate implementation of algorithms and to develop a Python prototype of an improved satellite detection algorithm utilizing ground-based telescope imagery. In my roles as an intern, I worked on a team that provides information to the Space Force to utilize when making decisions about government funding of software upgrades for observatory sites. At the end of each project, I had the opportunity to present my findings to other members of the team, which gave me valuable experience in communicating my work to people with various levels of area expertise.

I am excited at the prospect of working as a Full Stack Development Intern at Keysight, which would allow me to utilize my current technological and interpersonal skills towards making a positive impact in my role, as well as further developing my teamwork skills and knowledge of full stack technologies. I believe I would be a perfect fit for this internship and would welcome the opportunity to speak further about this opportunity. Thank you for your time and consideration; for next steps, I can be reached at (719) 394-6704 or ethanvoth1@gmail.com.

Sincerely,

Ethan Voth

Mini interview YouTube link:

https://www.youtube.com/watch?v=UdzOKDQwRSw