Keaton Shawhan

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EDUCATION

University of California, Santa Cruz   Sep. 2021 – June 2025
Bachelor of Science in Computer Science   *Santa Cruz, CA*
- **GPA: 3.94/4.0**
- **Relevant subjects**: Computer Architecture, Data Structures, Algorithms, Machine Learning, Computer Systems, Discrete Math, Software Engineering, Linear Math

EXPERIENCE

Software Engineer Internship   May 2023 – Aug. 2023
Alight Solutions   *Remote*
- Intern on the PAST team, tasked with optimizing APIs through Agile practices, while also leveraging Jira and Confluence to enhance daily scrums and sprint management with a team of over 20 professionals.
- Contributed to the migration from WCF to RESTful APIs, optimizing request configurations and **ASP.NET Core** dependencies, achieving a **15%** reduction in required storage for several production microservices.
- Developed **20+** unit and behavioral tests to optimize Microsoft SQL Server efficiency, resulting in a **40%** reduction in bug rates through precise validation and verification techniques.
- Coordinated closely with QA teams to validate API optimizations and system migrations, providing detailed instructions and test payloads that streamlined testing cycles and reduced manual verification overhead.

Software Engineer   Sep. 2022 – Oct. 2022
NASA International Space Apps Challenge   *Santa Cruz, CA*
- Directed a **6-person** team researching and developing an efficient Natural Language Processing (NLP) model, achieving a **96%** reduction in summarized article length and a global nomination among **30,000 applicants**.
- Orchestrated concurrent development branches on GitHub, implementing in-depth code reviews and constructing a high-performance website infrastructure utilizing **Django** and **AWS Lightsail VPS**.

PROJECTS

GoStudy: Collaborative Study | *React, Express.js, Node.js, MySQL, Docker*   June 2023 – Present
- Constructed a collaborative study group platform, utilizing React for a seamless front-end user experience, **Express.js/Node.js** for efficient backend routing, and MySQL for organized relational data storage.
- Leveraged **Docker** to containerize the platform, encapsulating the web application, **MySQL** database, and **Nginx** reverse proxy into isolated environments on the AWS Lightsail server, ensuring consistent deployments.
- Utilized OpenAI's **GPT-4** API in crafting a study-centric chatbot, optimizing the fine-tuning job objects to specialize API calls for academic use, increasing user engagement and productivity.
- Engineered secure and interactive user experiences by implementing **HTTPS** for data encryption and leveraging **WebSockets** to facilitate real-time, bidirectional chat communication.

JamJar: Social Music | *React, Flask, PostgreSQL*   Feb. 2023 – Present
- Built an interactive music-sharing social media web application using React for front-end dynamism, **Flask** for robust backend API management, and PostgreSQL for scalable data storage, all hosted on AWS Lightsail.
- Developed and refined a set of **REST APIs**, interfacing with **PostgreSQL**, to manage user authentication, posts, comments, and likes, resulting in optimized response times.
- Designed an infinite scrolling feature that dynamically loads posts, reducing initial page load time by **40%** and enhancing user engagement.

Data Compression Tool | *C, Linux, Git*   Sep. 2022 – Oct. 2022
- Researched and developed a Huffman-based lossless data compression algorithm, leveraging various data structures such as a priority queue, stack, and max-heap tree for optimized prefix-code generation
- Able to compress **800,000+** word files in under 0.2 seconds with a reduction in size by over **41%**, provided by compression statistics upon request

TECHNICAL SKILLS

Languages: C++, C, Python, C#, HTML/CSS, SQL, JavaScript, RISC-V Assembly, Bash Script

Technologies: Git, Linux, ASP.NET Core, Node.js, Postman, MongoDB, FastAPI, PostgreSQL, Flask, Django, React.js, nginx, Docker, MySQL, Express.js, Jira, Confluence, NuGet, AWS Lightsail