Jonas Groening

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Education

University of Michigan, Ann Arbor — April 2026
B.S.E, Computer Science — 4.0
Coursework: Prog. and Intro Data Structures, Discrete Math, Linear Algebra, Statistical Analysis, Multivariable Calculus

Experience

CriTech Research, Inc, Saline, MI — May 2023 - August 2023
Software Engineering Intern - Backend

- Implemented a **Flask API** with **OpenCV** and **Python** to combine x-ray images into a 3-dimensional model, enabling medical professionals to analyze bone anomalies
- Developed a **CI/CD pipeline** using **Jenkins** to automate **unit and black-box testing** saving **~5 hours** per week
- Enhanced and refactored a **C# .NET** backend to create a more robust **API** with fewer vulnerabilities

Quarry Videos, Ann Arbor, MI — January 2023 - May 2023
Self-Employed - Fullstack

- Architected an interactive fullstack website with **Next.js**, **React**, and **Tailwind**, amassing **hundreds of users**
- Programmed a centralized logging service with **Go** and **Svelte**, allowing the team to find **40%** more bugs monthly
- Utilized **RabbitMQ** and **Celery** to build a task system for computationally intensive work, strengthening the **API** to become more responsive
- Automated deployment with a **CI/CD pipeline** built with **Jenkins**, **Terraform**, and **Docker**, saving **~30 minutes** per commit
- Created a custom **Prisma** adapter for **MongoDB** that improved session data retrieval times by **over 5 seconds**

Technical Skills

Languages: Go, Python, Rust, Javascript, Typescript, C#, C, C++, Java, SQL, Bash
Web Frameworks: NextJS, React, Django, .NET, Flask, Fiber, Astro, Svelte
Tools: Git, Linux, NumPy, Docker, Terraform, OpenCV, Jenkins, Pandas, GraphQL, MySQL, MongoDB, Redis

Projects and Competitions

EmbedChain — July 2023 - Present
Open Source Contributor

- Add **Python** support to create multiple AI "brains" using **vector database** collections, resolving 3 github issues
- Contribute extensive unit tests using **PyTest** and **mocking**, increasing unit test coverage by **15%**
- Improve user ergonomics by writing a comprehensive reset function for the EmbedChain class
- Extended the functionality of a **Python** class, empowering users to define their preferred GPT model

Hazard Detector — January 2023
Best Use of Twilio, SpartaHack 2023

- Developed and implemented an embedded **C++** solution on an **Arduino** platform to accurately detect and monitor temperature and noise levels in real-time
- Designed and established a robust **Flask API** to receive critical warning requests from the Arduino in real-time
- Leveraged **Twilio API** integration to promptly notify users via SMS alerts

QLogger — June 2023 - July 2023

- Construct a centralized logging service built with **Golang** and **Fiber** with an interactive **Svelte** frontend to view, filter, and aggregate logs
- Containerized the application with **Docker** to simplify self-hosting

Leadership

AI Club — September 2022 - December 2022
Project Lead

- Successfully led a team of 4 developers resulting in timely project milestones and enhanced collaboration
- Developed a Chrome browser extension with **Javascript**, CSS, and HTML
- Engineered a **Python backend** using the **Flask** framework to receive and summarize incoming data using a pre-trained language model