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

Skills

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

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
- Maintained a **.NET** backend by resolving bugs using **Jira** and optimizing performance, accommodating a 12% growth in user interactions
- Devised 3 new endpoints using **C#**, reducing unnecessary API requests and enhancing responsiveness

Quarry Videos, Ann Arbor, MI — January 2023 - May 2023
Software Engineering Intern - Fullstack

- Architected an internal tool with **Next.js**, providing real-time data visualization and contributing to an increase in task efficiency
- Programmed a centralized logging service with **Go**, **Typescript**, and **Svelte**, allowing the team to find 35% more anomalies monthly
- Utilized **RabbitMQ** and **Celery** to build a task system for computationally intensive work, enabling the **API** to become more responsive
- Automated deployment with a **CI/CD pipeline** built with **Jenkins**, **Terraform**, and **Docker**, saving ~30 minutes each deployment cycle
- Created a custom **Prisma** adapter for **MongoDB** that improved session data retrieval times by over 5 seconds

Projects

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 with **PyTest** increasing test coverage by 15%
- Improve API ergonomics by writing a comprehensive database reset function
- Extended app functionality using **TypeScript**, 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

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, ensuring seamless functionality
- Engineered a **Python backend** using the **Flask** framework that converted incoming text into a concept map using a pre-trained summarization model