

# Jonas Groening

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## EDUCATION

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**University of Michigan, Ann Arbor**

Aug 2022 - May 2026

*B.S.E, Computer Science*

*Ann Arbor, MI*

**GPA:** 4.00/4.00 | **Activities:** V1, UM Autonomous Robotic Vehicle, Michigan Hackers

**Coursework:** Data Structures & Algorithms, Distributed Systems, Web Systems, Computer Architecture, Analysis of Algorithms, Technical Communication, Linear Algebra, Discrete Math

## EXPERIENCE

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**Courier Health**

Sep 2024 – Nov 2024

*Product Engineer Intern - Data Platform*

*New York City, NY*

- Engineered a metrics collection system for the data ingestion pipeline using TypeScript, tracking completion time, success rate, data integrity, etc. in PostgreSQL and wrote 100% coverage Jest tests to ensure reliability.
- Deployed a GraphQL API as an AWS Lambda for metrics retrieval and visualized using React, providing critical pipeline observability and diagnostics, bringing failure investigation time from 5+ minutes down to <60 seconds.
- Organized stakeholder meetings, gathered requirements, and created design proposals, driving product iteration.

**Vectra AI**

May 2024 – Aug 2024

*Software Engineer Intern - Distributed Compute*

*Austin, TX*

- Piloted scalable event-driven architecture for high workload tasks with Python and Celery, cutting AWS costs by 25%, halving CPU and memory allocation, and eliminating the need for 13 Kubernetes cronjob deployments.
- Minimized concurrent Celery broker and backend connections by optimizing pool sizes, lowering memory footprint by 34% for Redis, 10% for MariaDB, and driving down cloud compute costs.
- Leveraged Terraform to orchestrate S3 Access Point integrations and visualized time-series bucket usage data through Grafana, providing process-level cost observability and identifying areas for expense reduction.

**CriTech Research**

May 2023 – Aug 2023

*Software Engineer Intern - Analytics Engine*

*Saline, MI*

- Shipped redesigned endpoints for a medical patient portal using C# and .NET Core, removing unnecessary MySQL queries and accommodating a 10% growth in compliance data requests.
- Optimized API reliability by adding 100% coverage tests (unit, integration, blackbox) to a CI pipeline, saving ~2 hours of manual testing weekly and providing high service availability.

## PROJECTS

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**Beehive** | C++, FFmpeg, Multithreading | [Source Code](#)

- Engineered a cross-platform screen recording and streaming tool using C++, leveraging FFmpeg to encode and push video to an RTSP server in real-time (60+ frames per second) or write to disk in multiple formats.

**quarry.video** | NextJS, Python, Django, Go, Terraform, MongoDB | [Visit](#)

- Architected a full-stack app with NextJS, MongoDB, and Prisma, providing a robust in-browser interface for short-form content generation, video editing, and data visualization.
- Leveraged Python to build a reliable FFmpeg wrapper for the video processing pipeline, built with Django.
- Authored and deployed a centralized logging service using Go, allowing the team to find and track anomalies.

**Distributed Filesystem** | Go, Networking, Concurrency, Read-write locks | [GitHub](#)

- Built a distributed concurrent network filesystem, utilizing read-write locks for maximum efficiency, RPC calls to enable network communication with clients, and UDP sockets for automatic discovery.

## SKILLS

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**Languages:** Python, Go, C++, TypeScript, JavaScript, SQL

**Technologies:** Linux, Git, Docker, Terraform, Kubernetes, FFmpeg, Django, Flask, NextJS, GraphQL

**Interests:** Soccer, Personal Finance, Traveling, Hiking, Cats, Lifting