

# DERIC DINU DANIEL

[dericdd@umich.edu](mailto:dericdd@umich.edu) | [deric.dev](https://deric.dev) | [github.com/dericdinudaniel](https://github.com/dericdinudaniel) | [linkedin.com/in/dericdinudaniel](https://linkedin.com/in/dericdinudaniel)

## EDUCATION

### University of Michigan

Computer Science B.S.E.; GPA: 3.61

Dean's List, University Honors

Aug. 2021 – April 2025

Ann Arbor, MI

**Relevant Coursework:** Data Structures & Algorithms, Operating Systems, Web Systems, Computer Architecture, Computer Security, Computer Science Theory, Intro to Circuit Analysis, Multivariable Calculus, Linear Algebra

## EXPERIENCE

### Siemens

#### Software Engineer Intern

May 2023 – Aug. 2023

Troy, MI

- Managed DB and environment instances in **AWS** using **EC2** and **S3** while reducing development server costs by 0.5% to deploy testing and demo environments.
- Resolved critical bug in dropdown menus on **C++** server-side code utilizing refactoring and smart pointers, fixing product inconsistency and 8 memory leaks per dropdown interaction.
- Collaborated to manage team's migration from **CPPTTest** to **GoogleTest** framework while maintaining integration with **xUnit** and **AntBuild** system, resulting in departmental policy compliance.
- Configured multiple testing environments with performance profiling to simultaneously test server configuration, resulting in discovery of 8 minute slowdown.

### UM Autonomous Robot Vehicle

#### Software Engineer – Sensors

Jan. 2023 – Present

Ann Arbor, MI

- Engineered **ROS** Node (subscribers and ROS Service) using **C++/Python** and led team of 6 to produce GPS coordinate processing pipeline from Garmin GPS to provide goal locations from current robot location in Cost Map.
- Produced **Python** scripts to calculate and test encoder accuracy, resulting in diagnosis of faulty hardware and enabling rapid testing.

### V1

#### Software Engineer – Platform & Leadership Team

Dec. 2022 – Present

Ann Arbor, MI

- Redesigned and overhauled profile page utilizing **Next.js** and **Tailwind CSS**, improving UI/UX consistency and increasing info accessibility for 200+ users.
- Spearheaded redesign of main dashboard through database schema in **PostgreSQL (Supabase)** and front-end in a team of 5, resulting in 4 new features while significantly improving UI.

### Shade

#### Audio Consultant

Apr. 2023 – Present

Ann Arbor, MI

- Directed features and development of AI audio file tagging system and music production tool, leveraging 4 years of music production experience, resulting in doubling of potential market and 10+ new features.
- Labelled audio samples with **Python** script to provide training data for AI file tagging system.

## PROJECTS

### Thread Library | C++, Multi-threading, Mutexes, Condition Variables, Semaphores, Unix

- Implemented a **kernel** level **C++ thread library** on **Unix**, executing CPU initialization, thread creation and managing 50+ CPUs, interrupt handling, atomicity, thread management, and FIFO scheduling order.
- Designed, implemented, and tested functional spin-locks, mutexes, conditional variables, and integral CPU functionality, utilizing advanced **Unix** context management, involving register, stack, and PC syncing.

### Instagram Clone | React, Flask, Python, SQL (sqlite)

- Built fullstack Instagram clone with personalized user profiles leveraging **React** and **TailwindCSS** for client-side dynamic pages and **Flask/Python** for **REST API** and routing. Hosted on **AWS EC2** using **Gunicorn** and **Nginx**.

## TECHNICAL SKILLS

**Languages** : C/C++, Python, ARM, x86, HTML/CSS, Javascript/Typescript, SQL

**Technologies** : Next.js/React.js, Docker, Git, gdb, Linux, AWS, Wireshark, Flask, MapReduce, Sockets, Multithreading

**Misc.** : Ableton Live, FL Studio, Adobe Lightroom, Pioneer Rekordbox

**Interests** : OS/Kernel Development, Music Production/Audio, Consumer Tech, Soccer/Running/Gym