Derrick Lee

CONTACT INFORMATION   dlee3@scu.edu — 408-823-7288 — github.com/drklee3 — linkedin.com/in/drklee — drklee.me

EDUCATION

B.S., Computer Science Santa Clara University   **June 2020** (expected)
Relevant Coursework:

- Object Oriented Programming (C++)
- Data Structures (C++)
- Operating Systems (C/Rust)
- Theory of Automata and Formal Languages
- Computer Networks (C, in progress)
- Database Systems (Oracle SQL, in progress)
- Theory of Algorithms (in progress)

EXPERIENCE

Open Source Developer   **January 2018 - Present**
- Fixed incomplete features, improved and clarified code examples and documentation for **serenity**, a **Rust** library for interacting with the chat and VoIP platform Discord's API.
- Implemented bug fixes and security fixes to open source **Node.js** chat bot LuckyBot.

RELEVANT SKILLS

Languages
- Rust, C, C++, JavaScript, TypeScript, Python, HTML5, CSS, ARM Assembly, SQL, Bash

Related Technologies
- Git, Node.js, GraphQL, PostgreSQL, React, Koa, Apollo, Express, Next.js, Vue.js

PROJECTS

sushii-bot (14,000+ lines of code)   **December 2017 − Present**
- Chat bot for Discord with a ranking system, activity tracker, moderation tools and more with **over 64,000 total users**.
- Written in **Rust** with a **PostgreSQL** database, **diesel-rs**, and connection pooling with **r2d2-diesel**.
- Uses a **TypeScript** web server with **Koa** and **Puppeteer** to generate images from HTML.
- Paired a website with user leaderboards and statistics made with **Node.js**, **Next.js**, **React**, **Koa**, **Apollo** server and client for **GraphQL** endpoints, and **Join Monster** for batch data fetching.

Operating System Simulations (5,000+ lines of code)   **April 2018 − June 2018**
- Runs sequential and random disk reads with **C**, determines time differences and possible causes based on both physical and OS aspects. Programs and set up executed with **Bash** scripts.
- Multi threaded simulation written in **Rust** of different memory page replacement algorithms with given page requests and a range of memory sizes. Data visualized with plots made in **R**.
- Benchmarks in **Rust** to determine the overhead of synchronization primitives (Mutex) and lock contention.

vlive-rs (1,000+ lines of code)   **April 2018 − May 2018**
- **Rust** library for livestreaming platform VLive's API to fetch channel and video data.
- Implemented on the asynchronous **Hyper** client with Futures as well as **Reqwest** for a synchronous API.

mp3-fft   **July 2017**
- Web application that takes mp3 files and recommends 100+ headphones based on price, form factor, and music sound signature (bass-heavy, neutral, mid-forward, v-shaped).
- Uses the Fourier Transform and Welch's method to classify sound signature.
- Written in **Python** with a **Flask** microframework back-end along with **Vue.js** for front-end.