

Samir Rashid

☎ (650) 762-9756 | ✉ s3rashid@ucsd.edu | 🏠 godsped.com | 🌐 Samir-Rashid | in samirrashid
“Junior software engineer interested in building observable, safe operating systems.”

Education

University of California San Diego

San Diego, CA

DOUBLE B.S. MATH AND COMPUTER SCIENCE, CLASSICAL STUDIES MINOR | GPA: 3.93

Expected Graduation: June 2024

- **Relevant Coursework:** Graduate-Level Operating Systems (*in progress*), Real Analysis (*in progress*), Compilers, Networking, Cryptography

Experience

Viasat

Carlsbad, CA

SOFTWARE ENGINEERING INTERN

June - September 2023

- Ported **Linux drivers** to latest kernel for software router. Researched kernel changes to update deprecated function calls.
- Did bringup of drivers on OpenWRT based OS and debugged issues across the OS and networking stack by using strace and gdb.
- Maintain backwards compatibility of new OS by containerizing code with **LXC containers**.

Computing for Social Good Lab at UCSD

San Diego, CA

STUDENT RESEARCHER

August 2022 - May 2023

- Researched social media discourse of mental burnout and problem gambling.
- Analyzed trends using **LDA topic analysis**, augmented data, and experimenting with team applying natural language processing techniques.
- Explored and applied SOTA machine learning techniques to deal with real world data constraints.

Twitter

Remote

QUALITY ENGINEERING INTERN

September - December 2021

- Designed fault tolerant integration with testing framework that catalogues automated test results for manual testers.
- Used Java stream processing to aggregate test results in real time, enabling analytics on historical test results.
- Spoke with key stakeholders to design a solution. Worked with multiple teams to make sure solution can be adopted company-wide.

Projects

Triton Unmanned Aerial Systems

Python

PROGRAMMER

Dec 2020 - Current

- Collaborating with team to design, build, and fly an unmanned aerial vehicle (UAV). **Placed 5th place internationally.**
- Built a 3D real time dynamic path planning system in Python using RRT*. Training vision model for obstacle detection using **Blender** sim.
- Created robust testing framework to simulate and visualize generated paths.

Snek Compiler

Rust

- Wrote compiler in Rust for a subset of Python with custom breakpoint debugger.

June 2023

IP Networking Stack

C

- Implemented IPv4 compatible router in C that can send/receive/forward ARP, ICMP, and IP packets.

Apr 2023

Deep Neural Networks from Scratch

NumPy, PyTorch

- Wrote IBM machine translation; deep neural network (MLP) **from scratch with no libraries** for CIFAR-10.
- Use **PyTorch** to implement image captioner (LSTM+CNN) on CoCo; Fine tune BERT for Alexa intent classification.

Sept 2022

File Compression Utility

C++

- Implemented optimal prefix encoding file compression and decompression in C++ using Huffman coding.

Apr 2022

ACM Attendance Visualizer

React

FULLSTACK DEVELOPER

Sept-Dec 2020

- Developed online dashboard for analyzing the organization's event attendance data, using **D3, Express, React, and PostgreSQL**.
- Defined schema, implemented protected backend data processing routes, and documented APIs using Postman.

Triton Schedule Scraper

Python, Tkinter, Selenium WebDriver

- Python script uses WebDriver and automatically scrapes UCSD course schedule to create an iCal file.
- Created native GUI for the program using Python and Tkinter.

Oct 2020

DIY Projects

- Have built: mechanical keyboard, FPV quadcopter, maintain a home (computer) lab, analog turntable — using household parts, trackball (WIP) — design CAD and electronics for ergonomic mouse, air filter — 3D printed and CAded to combat indoor wildfire smoke.
- Latin poetry reader (prosody) — Python script uses Text-to-Speech API and morphs audio to match dactylic hexameter rhythm.
- Ancient Greek keyboard firmware mod — custom QMK firmware that natively supports Ancient Greek and its accents.

Awards

Xerox Award for Innovation and Information Technology

2019

Skills

Language Python, Java, C, C++, Rust, JavaScript, TypeScript, SystemVerilog, Bash, L^AT_EX, MATLAB, R, Haskell, Google Apps Script

Software PyTorch, React, SQL, AWS, Docker, Linux, Unity, Fusion 360, Blender, JUnit, Flask, pytest, Jest, GDB, ASP.NET, cProfile, Kubernetes