

Dhruv Sangamwar

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EDUCATION

University of California, Davis

Jul 2021 - Jun 2024

B.S. Computer Science

Relevant Coursework: Operating Systems, Computer Architecture, Data Structures, Algorithms, Object Oriented Programming, Quantum Computing, Distributed Ledgers, Bio-informatics, Human-Computer Interaction, iOS Development.

EXPERIENCE

Undergraduate Research Assistant

Oct 2023 - Present

C-square lab (Computational Communication Research Lab)

Davis, CA

- Studying governance policies within open-source repositories and sustainability of open-source software model, under Dr. Seth Frey.
- Time series analysis on commit history, and governance documents from a data set of over 700 open source repositories using python.
- Developing data pipelines to process institutional texts and validating GPT4 on tasks for NLP tasks such as semantic role labeling.

Undergraduate Course Instructor

Aug 2023 - Dec 2023

University of California Davis

Davis, CA

- Designed and taught **ECS 198F - Diving deep into world algorithms: competitive programming and more**, a exhaustive 3 unit course.
- Curated lesson plans and lectured a class of **85 students**. Facilitated one on one technical interview preparation with every student.
- Developed programming assignments and automated test cases for student submissions using **Gradescope API in Python & C++**.
- Taught topics such as Data Structures, Algorithm analysis, Dynamic programming, Randomized and approximation algorithms.

Product Engineering Intern

Jun 2022 - Jun 2023

Solidigm (Previously Intel NAND Solutions Group)

Sacramento, CA

- Designed, developed and automated **30+** new firmware validation tests on Intel SLC/QLC NAND SSD technology, P41 Plus drive.
- Modernized legacy test framework by migrating **100+** tests from **Python 2.7** to **Python 3** improving performance and security.
- Validated firmware through **Regression tests** covering areas of telemetry, thermal, write and read speeds, and data corruption.
- Gained proficiency in using **RS-232** serial data (**UART**) reported by device to characterize firmware behavior to debug efficiently.

Software Engineer

Mar 2021 - Dec 2021

NOMAD (acquired by WISH STR Enterprises)

Los Angeles, CA

- A startup with over **\$50,000** in funding and 10 engineers aiming to bring budget friendly travel options with features such as rent splitting. Holds 20+ listings in 2 countries, and completed UCLA Anderson Venture Accelerator.
- Developed a database seeding script using **JavaScript** to interface with **MongoDB**, improving database initialization and load testing.
- Implemented caching using **Redis** to improve geo-spatial indexing for property listings enhancing proximity based search performance.
- Developed containerized micro-services using **Docker** and scaled using **Kubernetes**, deployed applications on **AWS** and **Firebase**.

PROJECTS

Rust Software Development Kit

- Created a SDK for **ResilientDB**, a distributed blockchain database that is currently going through **Apache** incubation.
- Built using **Rust** employing effective **API design** along with asynchronous I/O, enabling concurrent database operations.

LLM Aided Flashcard Generation

- Automated flashcard generation powered by **GPT-4** allowing students and teachers to create quizzes from notes/textbooks.
- Built on **NextJS**, implemented front end in **React** and back end in **Flask**. Used **PostgreSQL** & employed **Redis** for caching.

Place Kittens

- Developed a robust web API in **Go** that dynamically generates and serves kitten images, supporting width and height parameters.
- Implemented **concurrent** request handling using Go's threading model (Go routines) to support multiple simultaneous API requests.

LEADERSHIP/CLUBS

Head of Projects

Jun 2023 - Present

Neurotech@Davis

Davis, CA

- Developed a website for the organization using **TypeScript** and **React**, deployed on Netlify gaining **1000+** page views per month.
- Created and managed the only open-source neurotech wiki, curating articles on **openBCI**, **EEG** and **signal analysis** in **Python**.

SKILLS

Programming Technologies

C#, C++, C, JavaScript, TypeScript, Python, Rust, Go, SwiftUI, Ruby, Haskell, x86, Verilog.
HTML/CSS, React, Node.js, SQL/NoSQL, Linux/Bash, Git, AWS, Docker, NumPy, Pandas, Kubernetes.