

# Ankit Sachdeva

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## Education

### University of California, Santa Cruz

September 2020 - June 2023

Bachelor of Science (B.S.) in Computer Science and Engineering

**Relevant Coursework:** Programming Abstractions, Assembly Language, Embedded Systems, Data Structures and Algorithms, Foundations of Video Game Design, Computer Architecture, Computer Networking

**Current Coursework** Computer Systems Design, Functional Programming, Artificial Intelligence, Management of Technology

**Involvements:** Santa Cruz Artificial Intelligence, Cycling Club, Badminton Club, Santa Cruz Mountains Trail Stewardship, Tech4Good

## Experience

### PayPal

June 2022 - Current

*Undergraduate Research Assistant*

Santa Cruz, CA

- Incoming software engineering intern on the payments team for Summer 2022

### Tech4Good Lab

January 2022 - Current

*Undergraduate Research Assistant*

Santa Cruz, CA

- Working under Professor David Lee to utilize the Salesforce AI Economist model to analyze scaling of apprenticeship learning

### Fox Factory

September 2021 - January 2022

*Embedded Software Engineering Intern*

Scotts Valley, CA

- Developed firmware for the Live Valve project's embedded systems in C utilizing the Nordic nRF52 SDK and SoC
- Designed Python tools to be used in EOL testers to perform QA related tasks, verify hardware and firmware functionality
- Performed QA related tasks such as creating test plans, conducting regression testing, and overseeing environmental testing

### Diversified Medical Records Services

April 2021 - September 2021

*Software Engineering Intern*

Salt Lake City, UT

- Refactored legacy bash SQL scripts to Python to significantly simplify codebase and save compute cost
- Implemented a user-intuitive report building system to improve user experience on front end and save time for the customer

### Iris Logic

July 2019 - October 2019

*Mobile App Development Intern*

Santa Clara, CA

- Designed and developed an Android application to complement the Boltron Machine Monitoring System
- Adjusted application to meet Google Play Store requirements and fixed compatibility with larger tablets

## Projects

### Pintos Operating System

[ankit.works/pintos](https://ankit.works/pintos)

- Modified the Pintos educational operating system to support priority-based thread scheduling and priority donation between threads
- Added support for a more efficient version of the "timer sleep" system call that drastically improves performance

### Huffman Compression Algorithm

[ankit.works/huffman](https://ankit.works/huffman)

- Implemented the lossless Huffman Compression algorithm in C with low level system calls for I/O reads and writes
- Created fundamental data structures including nodes, queues and stacks and performed bit-wise operations

### Remote Suspension Controls

[ankit.works/suspension](https://ankit.works/suspension)

- Used multiple arduinos acting as masters and slaves to create a wireless lockout system for mountain bike suspension
- Built encryption between master and slave nodes to prevent any malicious interference

### Unmasked Android Application

[ankit.works/unmasked](https://ankit.works/unmasked)

*TinoHacks II - 3rd place*

- Designed and wrote an Android application to scan cosmetic items and highlight potentially harmful or allergic ingredients
- Utilized Firebase and Google OCR API, written with a mix of Kotlin and Java in Android Studio

## Skills

### Programming Languages

- Rust, Go, Python, Bash, Java, C/C++, MIPS Assembly, RISC-V Assembly, SQL, HTML/CSS, JavaScript, Kotlin, Swift

### Technologies

- Git, SVN, Flask, Node.js, Express, React, MongoDB, NumPy, Pandas, Matplotlib, LaTeX, Docker/Podman, AWS