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
Involvements: Santa Cruz Artificial Intelligence, Cycling Club, Badminton Club, Santa Cruz Mountains Trail Stewardship, Tech4Good
Relevant Coursework: Programming Abstractions, Assembly Language, Embedded Systems, Data Structures and Algorithms, Computer Architecture, Computer Networking, Computer Systems Design, Functional Programming, Artificial Intelligence

Experience

PayPal **San Jose, CA**
Incoming Software Engineer Intern *June 2022 - September 2022*
- Incoming Software Engineering Intern for Summer 2022

Tech4Good Lab **Santa Cruz, CA**
Undergraduate Research Assistant *January 2022 - March 2022*
- Modified the Salesforce AI Economist tax model to analyze scaling of apprenticeship learning under Professor David Lee
- Added actions and other variables to new and existing agents in order to model different styles of apprenticeship programs

Fox Factory **Scotts Valley, CA**
Embedded Software Engineer Intern *September 2021 - January 2022*
- Performed QA related tasks such as creating test plans, conducting regression testing, and overseeing environmental testing
- 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

Diversified Medical Records Services **Salt Lake City, CA**
Software Engineer Intern *April 2021 - September 2021*
- Implemented a user-intuitive report building system and dashboard to improve user experience and save time for the customer
- Refactored legacy bash SQL scripts to Python to significantly simplify codebase and save compute cost and technical debt

Iris Logic **Santa Clara, CA**
Mobile App Development Intern *July 2019 - October 2019*
- Designed and developed an Android application to mirror and complement the Boltron Machine Monitoring System's capabilities
- Adjusted application to meet Google Play Store requirements and fixed compatibility with larger phones and tablets

Projects

Pintos Operating System **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 improves performance by removing busy-waiting

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

Remote Suspension Controls **ankit.works/suspension**
- Used ATMega32u4 microcontrollers acting as masters and slaves to create a wireless lockout system for mountain bike suspension
- Built encryption and authentication between master and slave nodes to prevent any malicious interference

Unmasked Android Application **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 with image enhancement, 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