

# Ankit Sachdeva

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## Education

### Georgia Institute of Technology

August 2024 - Current

Master of Science (M.S.) in Computer Science

**Relevant Coursework:** Human Computer Interaction, Knowledge Based Artificial Intelligence, Information Security, Graduate Operating Systems, Educational Technology

### University of California, Santa Cruz

September 2020 - June 2024

Bachelor of Arts (B.A.) in Computer Science and Engineering

**Relevant Coursework:** Operating Systems, Data Structures and Algorithms, Computer Architecture, Computer Networking, Computer Systems Design, Distributed Systems, Assembly Language, Embedded Systems, Artificial Intelligence, Database Systems

**Involvements:** Cycling Club, Residential Assistant, SC Mountains Trail Stewardship, Badminton Club, Tech4Good Lab, Keyboard Club

## Experience

### PayPal

San Jose, CA

Software Engineer Intern

June 2022 - September 2022

- Assessed blockchain integration for settlement team's file exchange processes, identifying improvements in integrity and security
- Developed a blockchain-based proof-of-concept with Solidity to collect metrics on throughput, reliability, and robustness
- Successfully deployed a prototype that matched or exceeded the performance of existing production code by up to 40%

### Baskin School of Engineering at UCSC

Santa Cruz, CA

Group Tutor, Reader

March 2022 - June 2024

- Group tutor and reader for Computer Systems and C Programming, Data Structures and Algorithms, and Database Systems
- Implemented GitLab CI/CD workflows that automated plagiarism detection and autograding, reducing grading time by 80%
- Supported over 600 students by providing guidance and debugging code, contributing to improved class-wide performance

### Tech4Good Lab at UCSC

Santa Cruz, CA

Undergraduate Research Assistant

January 2022 - March 2022

- Collaborated with researchers to modify the Salesforce AI Economist model, implementing agents to model apprenticeship learning
- Utilized PyTorch and custom Salesforce AI tools to optimize agent behaviors, improving simulation performance and scalability

### Fox Factory

Scotts Valley, CA

Embedded Software Engineer Intern

September 2021 - January 2022

- Developed firmware in C for the wireless Live Valve suspension system, leveraging the Nordic nRF52 SDK and SoC
- Led QA efforts on prototype hardware and software, proactively identifying issues and implementing solutions
- Designed comprehensive test plans, including regression and environmental testing, ensuring robustness across conditions

## Projects

### Huffman Compression Algorithm

[ankitsachdeva.com/huffman](https://ankitsachdeva.com/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

### tacticians.tools

[ankitsachdeva.com/ttools](https://ankitsachdeva.com/ttools)

- Leveraged the Riot Games API to analyze the match history of hundreds of TFT games, identifying top-performing tacticians
- Developed and hosted a SQL database on AWS, enabling storage and retrieval of match history data from games
- Engineered and optimized RESTful API endpoints in Python to fetch and process game data in real-time

### Pintos Operating System

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- 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

## Skills

### Programming Languages

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

### Technologies

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