

Aaron Chen

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EDUCATION

School: University of California, Irvine

Graduation Year: 2021

Major: Computer Science

GPA: 3.968

Coursework: Data Structure and Algorithms, Python and C++ Programming, System Design, Principles of Operating System, Computer Networks, Introduction to Data Management, Software Engineering, Linear Algebra, Statistics, and Discrete Math.

SKILLS

Programming Languages: Python, Java, C++, C#, C, JavaScript, MySQL, HTML, CSS

Technologies: Linux Shell Scripting, Github Version Control, GDB Debugging

PROJECTS

Pintos / System Design Project

March 2020

- Implemented **thread** management in a simple Operating System.
- Wrote a **Priority Scheduler** that handled priority donation and multiple donation.
- Enabled concurrency by utilizing **mutexes** and **semaphores**.
- Worked closely with context switching and timer interrupts.

Simple Shell / System Design Project

November 2019

- Developed a simple shell in **C** that supports **Unix** commands, **piping**, and **redirection**.
- Utilized system calls like fork, execve, waitpid, dup2, and pipe.
- Supported the execution of both background and foreground processes.
- Handled the termination of background processes by installing custom **signal** handlers.
- Prevented race conditions by **blocking** particular signals.

Dynamic Memory Allocator / System Design Project

October 2019

- Created an **explicit** free list allocator in **C** with **first-fit** placement.
 - Implemented the functions **malloc**, **free**, and **realloc** from scratch.
 - **Aligned** memory blocks by adding necessary **padding** for speed optimization.
 - Used a **doubly linked list** to manage unallocated memory.
 - Performed **coalescing** on free blocks to satisfy large malloc requests.
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WORK EXPERIENCE

L3Harris Technologies / Software Engineer Intern | Irvine, CA

July 2020 - Present

- Worked under the GPS team.

Green Apples Education / Java Instructor | Cupertino, CA

July 2019 - August 2019

- Taught students advanced **Java** concepts including **data structures** and sorting **algorithms**.
 - Followed a curriculum and conducted four hour lectures five times a week for three weeks.
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ACTIVITIES

ICS Student Council / Programmer | Irvine, CA

January 2020 - Present

- Joined the **Projects Committee** to work on a course catalogue **web** application.
- Wrote the **web scraping** script in **Python** to gather course information.
- Worked in a team of 4 to create a working prototype with **React** and **Elasticsearch**.