

Allen Keng

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EDUCATION

University of California, San Diego

La Jolla, CA

Bachelor of Science in Computer Engineering : GPA: 3.80

Expected Graduation: June 2025

- **Relevant Coursework** : Principles of Computer Operating Systems, Software Engineering, Digital Design, Digital Integrated Circuits, Computer Architecture, Systems Programming

EXPERIENCE

Software Developer Intern

June 2023 – September 2023

San Diego Supercomputer Center

La Jolla, CA

- **Collaborated with an Agile team** to create an immersive 3D virtual escape room in Unity, designed to enhance UCSD students' awareness of campus resources.
- **Led programming team** for dynamic player interactions and puzzle tracking in **C# via Unity's attachment to Visual Studio**, optimizing game object data management.
- **Implemented a real-time leaderboard using the WebSocket API** to facilitate bi-directional communication between Unity WebGL and a **Node.js HTTPS server** maintained on an Oracle Cloud Virtual Machine.
- **Successfully engaged 350+ users**, significantly increasing their awareness and understanding of the resources available at Geisel Library as well as the two bottom floor layouts.
 - * <https://pandas-xpress.itch.io/midnight-escape>

PROJECTS

Snowboard Support System | C, Python, Bluetooth Low Energy, HTML, JS, CSS

- **Engineered an embedded system** that alerted users of instabilities that could lead to falling.
- Implemented **I2C communication for accelerometer data acquisition in C**.
- Collaborated a **custom PCB with KiCad** for compact integration and improved portability.
- **Incorporated BLE for wireless data transmission in C**, facilitating real-time communication between the ESP32 and external devices.
- Designed a **Python GUI** to receive and display data via **Bleak and Tkinter**, while monitoring thresholds in real-time for the user to see.
- **Built a project website using HTML, JavaScript, and CSS** to showcase the project and its features.
 - * <https://allkeng.github.io/Snowboard-Support-System/>

PantryPals | Java, JUnit, JavaFx, ChatGPT API, RESTful API, MongoDB

- **Led a six-person team** in developing a recipe-storage application, using Agile methodologies for project management and iterative development.
- **Collaborated and implemented RESTful APIs** to handle HTTP requests for managing recipes and user data, with **backend connectivity to a MongoDB database**.
- **Integrated ChatGPT API** to generate recipes from user-provided ingredients and display results through a JavaFX GUI.
- **Configured GitHub Actions to run end-to-end tests**, validating the overall system performance and user interactions.

TECHNICAL SKILLS

Languages: Java, Python, C/C#/C++, JavaScript, HTML/CSS, SystemVerilog

Frameworks: React, Node.js, JUnit, JavaFX, MongoDB

Software Tools: Git, GitHub, GitLab, Docker, VS Code, Visual Studio, Oracle Cloud Infrastructure (OCI)

Engineering Design Tools: LTSpice, KiCad, Virtuoso Cadence, Quartus, ModelSim, Matlab, Onshape