David Lim

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EDUCATION

University of California, Berkeley   *Aug. 2020 – May 2024*
Bachelor of Science in Electrical Engineering and Computer Science
Relevant Coursework
Database Systems (in progress), Data Structures, Algorithms, Artificial Intelligence, Computer Security, Discrete Mathematics and Probability Theory, Designing Information Devices and Systems, Structure and Interpretation of Computer Programs

EXPERIENCE

Sea Warden | *Contract Software Developer*   *Aug. 2021 – Dec. 2021*
- Revamped a full stack web application that retrieves the GeoJSON file of the user's seafood farms from DynamoDB
- Implemented a front end interface which renders geographical data through Kepler.gl API
- Created a filtering system that selectively displays data from JSON files and allow users to customize its settings

UC Berkeley EECS Department | *Academic Intern*   *Sep. 2021 – Dec. 2021*
- Administered lab sections of 20-30 students, developing their understanding of basic computer science topics such as data structures, Object-Oriented Programming, and asymptotic runtime complexity of various algorithms
- Provided conceptual guidance to students on their large scale class projects, homework assignments, and labs
- Assisted students in designing specific unit & integration tests for their code and using their IDE debugging tools

Orange Note | *Coding Instructor & Curriculum Developer*   *Jun. 2021 – Aug. 2021*
- Co-founded and directed an 8-week summer curriculum on Web Development (HTML/CSS)
- Enhanced the students' understanding of computer systems and code organization skills through online lectures and personalized tutoring sessions, adopted to their past programming experiences

PROJECTS

End-to-End Encrypted File Sharing System   *Golang*
- Implemented a secure file sharing system with functions such as user authentication, file persistence, and sharing revocation using AES-CTR block cipher mode and cryptographic hashes
- Devised a comprehensive design documentation outlining its logic, data structures, helper methods, and test cases
- Cooperated with a teammate through pair programming and organized meetings to actively update our design doc

Dungemon   *Java*
- Programmed a parody game of Pokemon with a recursive pseudorandom maze generation algorithm, randomized battle spots and items based on the given seed
- Integrated GUI to visualize each Dungemon battle and display the damage dealt/taken

Git Version Control System   *Java*
- Created a Java-based version control system similar to Git with functionalities such as add, commit, log, and branch
- Developed algorithms and utilized data structures like maps and trees to persist commits and staging area

Spotify Music Recommendation Engine   *HTML, CSS, JS React, Spotify API*
- Designed a web application that generates different themed Spotify playlists using React and Spotify API
- Utilized the Spotify API to request the user's Spotify account data and personalize the recommendation engine with the user's information and 13 track attributes of each song

SKILLS

Languages: Python, Java, C, Golang, JavaScript, SQL, Swift, Assembly (RISC-V & x86), Arduino Programming
Technologies/Frameworks: Git, Amazon Web Services (AWS), React.js, Numpy, Kepler.gl, CNMAT/CNMAT-odot
Design: HTML/CSS, Adobe Photoshop & Illustrator, Figma