Riley Chou

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Education

University of California, Santa Barbara (UCSB)   Goleta, CA
Bachelor of Science in Computer Science   Expected June 2025
- GPA: 3.81/4.00. College of Engineering Honors Program. Deans Honors List.
- Relevant Courses: Object Oriented Programming (C++), Data Structures & Algorithms, Computer Architecture, Automata and Formal Languages, AR/VR, IoT, Networking, Operating Systems, Computer Security, Compilers

Experience

Undergraduate Research Assistant, ArchLab, Goleta, CA   September 2023-Present
- One of 40 undergraduate students selected for the Early Research Scholars Program with Professor Balkind.
- Optimize Sootty, a command line waveform visualization tool, with Polars Dataframes to speed up data processing of the query-based application.
- Collect performance data with a team of undergraduates to present the project at a research symposium.

Web Development Engineering Intern, We Vote, Oakland, CA   June 2023-September 2023
- Developed 2000+ lines of React.js and JavaScript in the front-end to enhance the open source We Vote web app's performance and improve user experience.
- Curated political data entries with Django backend by filtering relevant data points in the server to provide election race information.
- Deployed full-stack software on an Agile/Scrum development team with weekly standups to help 10,000 potential users make informed political decisions.

IT Engineering Intern, Lanner Electronics Inc., Fremont, CA   June 2023-August 2023
- Architected a web application with Django that features user authentication to process work orders.
- Processed work order data from SQLite database that is populated by the Django ModelForm class.
- Performed weekly code review sessions to communicate feedback and implement new features.

Undergraduate Learning Assistant, Computer Science Dept. of UCSB, Goleta, CA   September 2022-March 2023
- Mentored 350+ students in introductory Python and Digital Logic Design courses.
- Scheduled weekly office hours to provide debugging sessions, homework help, and content clarification.
- Proctored weekly quizzes and graded assignments and projects with Gradescope software.

Director of Technology, Citro Tech, Remote   November 2020-September 2021
- Built and maintained Citro Tech's responsive website with HTML, CSS, and JavaScript alongside one other member.
- Gathered 830+ signups, raised $3000+ from 24 sponsors, and cohosted 18 workshops for the Citro Hacks hackathon.

Projects

KOS: Operating System for Simulated MIPS Machine, CMPSC 170, Goleta, CA   January 2024-March 2024
- Implemented bootstrapping and memory partitioning for an operating system in the C programming language.
- Programmed 19 system calls that can run 8 concurrent processes and communicate synchronously via pipes.
- Conducted extensive unit testing and debugging with GNU Debugger to ensure code correctness.

At Home Photobooth, CMPSC 190B, Goleta, CA   September 2023-December 2023
- Connected Raspberry Pi to a touchscreen with a circuit design that enables image capture with camera module.
- Established SMTP server with AWS Simple Email Service to automate emailing photos to 11 users.
- Integrated Python code leveraging gpiozero and picamera libraries to generate collages and apply filter overlays.

Blenders Simulator, SB Hacks IV, Goleta, CA   May 2023
- Created frontend based web app using React.js and CSS Animations based off popular smoothie chain Blenders.
- Invented a math-based system to determine which out of 5 flavors the smoothie is based on input ingredients.
- Designed a smoothie archive that saves the users' favorite smoothies to a local database to return to later.

Technical Skills

Languages and Frameworks: Python, JavaScript , C++, C, C#, Java Spring, ReactJs, NextJs, NumPy, SciPy, Pandas, Polars, Django, GraphQL

Developer Tools: Github, Git Version Control, VS Code, LaTeX, Scrum & Agile, Linux, Unix, Bash, Unity Engine, Jira, Docker, REST API, Raspberry Pi, AWS (Amazon Web Services), Figma