

Robert Wong-Sing

510-331-5006 | robertwongsing@gmail.com | [linkedin.com/in/rwongsing](https://www.linkedin.com/in/rwongsing) | github.com/rwongsing

OBJECTIVE

A fresh graduate of Computer Engineering seeking a full time role as a software engineer. Bringing expertise in writing full-stack code, as well as a solid grasp of data structures and object-oriented designs.

TECHNICAL SKILLS

Languages: C/C++, Python, SQL, Java, JavaScript, HTML/CSS

Frameworks/Tools: Git, Linux, Bash, Flask, PostgreSQL, Matlab, MongoDB, Splunk, Agile

EDUCATION

University of California Santa Cruz

Santa Cruz, CA

Bachelor of Science in Computer Engineering

Sep 2018 – Jun 2021

- Concentration in Systems Programming
- Activities: Slugs United by Math, Slug Gaming
- Relevant Coursework: Data Structures and Algorithms, Computer Architecture, Computer Systems, Network Programming, Database Management Systems, Embedded System Design, Logic Design

EXPERIENCE

San Francisco Bay Area Rapid Transit (BART)

Jun 2021 – Aug 2021

Systems Engineering Intern

Oakland, CA

- Designed weather visualization overlay that displayed hazard icons on top of a map of 100+ BART stations, aerial structures, and railways based on internal sensor and public weather data
- Constructed search queries and scripts utilizing REST API calls to store data in Splunk database, allowing for real-time updates to the BART map
- Improved the readability of the current weather dashboard system and enhanced the experience for maintenance workers to easily visualize current weather conditions
- Leveraged knowledge in Full Stack Web Development, JavaScript, Shell Scripting, Python, Splunk, and Git

Disability Resource Center at UC Santa Cruz

Oct 2019 – Jun 2021

Technology Assistant Lead

Santa Cruz, CA

- Informed students with disabilities on assistive software through demonstrations of various accessible technologies
- Managed hardware within the Inclusive Computing and Technology Lab on the UCSC campus and refined laptop loan process to be simpler and more efficient through tracking in Google Sheets
- Researched and advocated for the purchase of accessible technologies that benefited the visually impaired
- Designed and integrated Python script that scrapes inventory data from spreadsheets and converts it into interactive visual graphs to chart the monthly distribution of Livescribe smartpens

Maxar Technologies

Jun 2020 – Sep 2020

Software Engineering Intern

(remote) San Jose, CA

- Increased efficiency of testing analysis through the creation of a rollback feature that allowed engineers to simultaneously compare current data with previous iterations located in a MongoDB database
- Implemented a notes system that required user authentication to allow for a secure and user-friendly experience, enabling engineers to communicate with each other across teams
- Interfaced across Ground Software teams under the Space Infrastructure branch in weekly scrum meetings and participated in bi-weekly sprint planning
- Leveraged knowledge in Full Stack Web Development, JavaScript, Python, and Git

PROJECTS

Open Source Visual Overlay App | *JavaScript, HTML, CSS, Splunk*

- Packaged and deployed custom visualization app to Splunkbase, the Splunk community app store, found at <https://splunkbase.splunk.com/app/5651/>
- Provided a new capability for Splunk users to overlay custom icons on top of a given image or map
- Maintained app with frequent updates, adding new features and resolving bugs based on community feedback
- Accumulated 70+ downloads across 6 countries within 4 weeks of initial deployment

Microcontroller Oscilloscope | *C, C++*

- Designed the user interface and backend of an oscilloscope on a PSoC6 microcontroller
- Utilized EmWin API to draw the plots of to 2 waveform signals at the same time with dynamic updating
- Implemented hardware components such as ADC, DMA, and UART to perform data transfers and parsing user commands
- Optimized code to efficiently calculate frequencies and draw varying waveforms with minimal data loss

Movie Night Web App | *Python, HTML, JavaScript, Flask, SQLite*

- Created web application that centralized and stored movie suggestions in a SQLite database
- Called from IMDbPY API to scrape movie data including movie duration, ratings, and genres
- Implemented sorting algorithms and randomized movie selections that query through the database allowing for a fast and easy movie decision
- Designed user interface with intuitive, readable buttons for a simple aesthetic using HTML, Jinja, and JavaScript

Multithreaded Chat Program | *C, C++*

- Created an rpc server that forwarded chat requests between clients and handled connections
- Utilized sockets and bounded buffers to transfer requests and responses using TCP protocols between client and server
- Integrated linked lists, locks and semaphores to store and share data without possibility of race conditions, including lookups of the waiting clients
- Optimized concurrency and threading to handle multiple clients and millions of requests in parallel, outperforming 95% of the other servers in the class

ADDITIONAL ACTIVITIES

Hack:now Attendee

Apr 2020

- Collaborated with 3 other hackers to develop a platform for small businesses to showcase who they are and how they're doing during the Covid-19 pandemic
- Directed the front end development that produced a clean user interface for the web application using knowledge of HTML, Jinja, and JavaScript
- Scraped Yelp API for restaurants within 10 mile radius of given zip code and persisted them in Google Firestore

CruzHacks 2020 Attendee

Jan 2020

- Developed a voice assistant using Python that allowed users to retrieve Google Calendar events and save custom textedit notes
- Integrated Google Auth library and token pickle to hide token keys, ensuring a secure experience
- Utilized pyttsx3 for text to speech capabilities and included 20+ phrases to wake up the program