

# ZHIYUAN SONG

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## Education

University of California, Santa Cruz

Sep. 2022 – June 2026

Bachelor of Science in Computer Science

GPA: 3.97/4.00

## Relevant Coursework

- Prog Abs Python
- Comp Sys and C Prog
- Computer System
- Algorithms
- Intro Computer Sci
- Assembly Language
- Data Structures
- Discrete Mathematics

## Technical Skills

**Languages:** Python, C/C++, HTML/CSS, JavaScript, Node.js, Assembly

**Technologies/Frameworks:** Linux, Unix, Github, VS Code, Bitbucket, Pycharm

## Projects

**Web Crawler in C** | *C Programming, Web Scraping, libcurl Library, Regex, FIFO Queue Data Structure* **November 2023**

- **Project Description:** Spearheaded the development of a Basic Web Crawler in C, leveraging fundamental web scraping techniques and systems programming.
- Utilized command-line arguments to configure essential parameters, including the seed URL, page directory, and maximum crawling depth.
- Employed **URL normalization techniques** to ensure consistency and enhance the reliability of the crawling process.
- Integrated the **libcurl library** for efficient HTTP requests, facilitating seamless retrieval of HTML content from web pages.
- Orchestrated the design and implementation of HTML parsing functionalities, utilizing **regular expressions** to extract hyperlinks from page content.
- Engineered a **FIFO queue data structure** to manage the crawling process effectively, prioritizing URLs based on their insertion order.
- Implemented **error handling mechanisms** to gracefully manage exceptions, including failed URL normalization, download errors, and memory allocation errors.

**MeMo MailBox Project** | *JavaScript, Database*

**November 2022**

- **Project Description:** Developed an Online Mailbox Application designed to facilitate users in recording and sharing their journals securely. The app allows users to create and maintain private message accessible only through a unique code, ensuring data privacy.
- Designed the **user interface (UI)** for the application, ensuring a user-friendly and visually appealing experience.
- Implemented a **user authentication system** that enables users to create and manage their accounts, and stored user information securely in a **database**.
- Implemented a verification process that cross-checks user-entered login information with the database records.
- Implemented secure data storage and retrieval mechanisms for messages entries, timestamps, and access codes in the **database**.
- During my time developing software, I've learned about the **basic software development process**, from planning and coding to testing and maintaining. I've also become familiar with **code reviews** and **team work**.

## Rewards

**Dean's Honor:** Spring 2023, Winter 2023, Fall 2022