Colm Lang
Software Engineer Intern
[Github](), [LinkedIn](), [Portfolio]()

3rd Year CS 4+1 Student
San Francisco, CA
412-716-7253, cplang@dons.usfca.ed

Skills

Programming Languages: Java, JavaScript, Go, C, Python, TypeScript, ARM & RISC-V Assembly
Frameworks Libraries, & Tools: D3, React, Node, Next.js, Spring, Tailwind, Git, Vim
Paradigms: Multithreading, Distributed Systems, Big Data, Data Structures & Algorithms

Education

Computer Science 4+1 (BS/MS), *University of San Francisco*

M.S. Computer Science, 2025   B.S. Computer Science, 2024

Courses Taken: Algorithms (MS), Big Data (MS), Data Visualization, Software Development, OS

Experience

Data Visualization Research Assistant | *University of San Francisco*

May 2022 - Present   JavaScript, D3.js, React.js, HTML/CSS

Context-providing techniques for offscreen visualization on mobile devices
- Designed and developed innovative offscreen visualization solutions with a focus on modular architecture
- Improved mobile device performance by implementing memory-efficient data structures and update techniques for a 230% increase in data-size capability

Using a constructivist approach to Treemap literacy
- Created interactive software for a Data Visualization Literacy study on Node-Link Graphs and Treemaps, yielding user-centered insights

Computer Architecture Teaching Assistant | *University of San Francisco*

January 2022 - Present   C, GDB, Vim, ARM & RISC-V Assembly

- Imparted knowledge of computer architecture to students through concise explanation of technical topics
- Earned high praise from students for exceptional performance as a teaching assistant, as cited in end-of-semester course evaluations for the past three semesters

Projects

Hadoop Distributed File System in *Go* | Big Data @ USF   Jan. 2023 - Present
- Implementing Yahoo's HDFS based on their research paper across a 12 machine cluster, demonstrating a strong, applied knowledge of big data and distributed systems

Search Engine & Web Crawler with *Java 17* | Software Dev @ USF   Aug. 2022 - Dec. 2022
- Engineered an efficient multithreaded search engine featuring an in-memory inverted index and web-crawler, exhibiting a solid grasp of software development best practices.
- Utilized pull-requests, version control, and code reviews to ensure professional code quality

Asteroid Visualization using *D3 & React* | Data Viz @ USF   Jan. 2022 - May 2022
- Created a lightweight, interactive visualization of over 1 million asteroids with data from NASA
- Engineered a hex-bin data aggregation approach to reduce client data necessity by 96%