Nick Carboni

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EDUCATION | **California Polytechnic State University, San Luis Obispo**   *Expected June 2027*

Bachelor of Science in Computer Science

- Cumulative GPA: **3.97 / 4.0**
- Dean's List recipient 3x (Fall 2023, Winter 2024, Spring 2024)
- President's List: 2023 - 2024 School Year

Relevant Coursework: Data Structures; Intro to Computer Organization; Project-Based Object Oriented Programming and Design; Discrete Structures; Systems Programming; Software Engineering I & II; Linear Analysis

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TECHNICAL SKILLS

Languages: Java, Python, C, RISC-V Assembly, TypeScript, JavaScript, HTML, CSS
Technologies: Git, Linux, React, Next.js, MongoDB, Adobe Creative Cloud

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PROJECTS

Modular Multithreaded Web Server
- Concurrently handles multiple client connections using **C** and POSIX sockets while minimizing performance bottlenecks
- Implemented a modular architecture allowing seamless extension to additional methods and features
- Utilizes mutexes to synchronize access to shared resources, ensuring safe multithreaded operation
- Performs proper request parsing, file serving, and response generation according to HTTP protocol

Inode-based Unix File System Simulator
- Designed and implemented a Unix file system simulator in **C,** with inodes to efficiently manage file metadata
- Simulated file creation, deletion, and organization within a hierarchical directory structure
- Extensively tested edge cases with Valgrind to ensure proper behavior and memory safety

Custom Exception & Interrupt Handler with MMIO Device Simulation
- Built a robust exception & interrupt handler integrated with memory-mapped I/O to simulate external device communication
- Manipulated control status registers to identify exception cause and origin, logging critical information to the user
- Gained experience with process control and low-level systems programming using **RISC-V Assembly**

Live Crowds & Ratings App
- Developed a mobile app with **React Native** and **Java** to provide real time 'busyness' ratings to local bars
- Integrated Google Maps API to allow users to search nearby venues, view directions, and get location specific results
- Applied design patterns such as Entity-Control-Boundary to create a modular, maintainable codebase for scalable development

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LEADERSHIP & EXPERIENCE

Software Dev - Hack4Impact Cal Poly   *September 2024 - Present*
- Participated in a comprehensive bootcamp with a focus on **TypeScript**, **React**, **Next.js**, and **MongoDB**
- Collaborated with product managers and other humanitarian-focused developers to use technology for social good
- Gained hands-on experience with backend development, databases, and modern frameworks

Sigma Phi Delta Professional Engineering Fraternity   *Fall 2023 - Present*
- Engaged in community outreach via STEM education initiatives, community service, and volunteering
- Mentored new members by providing guidance on academic, professional, and personal development
- Strengthened bonds with various engineering organizations by planning socials and networking events

Service Advocate - Target   *November 2022 - Present*
- Facilitated customer service through use of communication and time management
- Trained and mentored numerous new team members, providing guidance on store operations and service standards
- Fostered positive coworker relationships and emphasized collaborative workplace values