Rishan Baweja

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Education

California Polytechnic State University - San Luis Obispo — San Luis Obispo, CA
B.S. in Computer Science, ***GPA: 3.6/4.0*** — *Sept. 2023 – May 2027*

Technical Skills

Languages: Java, Python, C, C++, JavaScript, HTML, CSS, SQL (PostgreSQL), RISC-V
Frameworks & Libraries: React, Node.js, Flask, FastAPI, Tailwind, PyCryptodome, Pandas, NumPy, Matplotlib
Tools: Git, VS Code, VIM, IntelliJ, Supabase, TablePlus, Docker

Experience

Software Developer Intern — December 2024 – September 2025
Astellent — *San Francisco, CA*
- Developed end-to-end projects for multiple clients, delivering tailored web solutions
- Designed an online course website to educate designers how to code with AI
- Collaborated with product managers to refine feature requirements, translating them into technical specifications

Network Researcher — June 2025 - Aug. 2025
California Polytechnic State University - San Luis Obispo — *San Luis Obispo, CA*
- Evaluated Apple's Private Relay egress locations to determine how different census tracts affect user privacy
- Identified strong correlations between demographics (income, education, density) and privacy levels
- Leveraged Pandas to create custom, clean data tables to extract key insights about population groups for analysis
- Analyzed privacy and usability tradeoffs in Multi-Party Relay Systems

Software Researcher — June 2023 – Sept. 2023
Sonoma State University — *Rohnert Park, CA*
- Implemented a real-time React-based frontend to visualize live plant condition data collected via Raspberry Pi's
- Created a Flask backend with SQLite to store sensor readings for client-server communication
- Designed eye-appealing UI with smooth transitions in CSS

Projects

Cybersecurity Projects Performed In a Testbed | *Python, PyCryptodome* — Sept. 2025 – Oct. 2025
- Optimized bcrypt brute-force cracking with multiprocessing, achieving a 12% speedup ($\approx$ 20 hours saved)
- Encrypted data using CBC mode and demonstrated padding and implementation weaknesses to recover plaintext
- Implemented RSA and Diffie–Hellman key exchange, then demonstrated a MTIM attack to reveal protocol flaws

Gamer Society | *Python, Flask, PostgreSQL, Docker* — March 2025 – June 2025
- Outlined project architecture of a video game ranking application
- Formulated RESTful APIs for complex CRUD operations, including personalized feeds and game suggestions
- Improved endpoint efficiency by 30% after stress testing the database with millions of synthetic database rows
- Ensured concurrency control to ensure data consistency in multi-user database environments
- Enhanced application security by preventing SQL injection and related exploits through secure coding practices

UNIX File System | *C, Git* — January 2025 – March 2025
- Built core UNIX file system functionalities in C, including file creation, directory listing, and navigation
- Developed support for commands such as `uniq` and `wc`, enabling text processing directly on files
- Established a custom in-memory data structure to simulate file allocation and directory hierarchy

Coding Club | *Python* — June 2022 - May 2023
- Encouraged elementary and middle school students to code through interactive coding projects I designed
- Debugged student's code quickly in classes of up to 30 students
- Coordinated with various district Superintendents at 3 different schools to set up weekly classes

Waste Reducer App | *C++, HTML, CSS* — June 2022 - Dec. 2022
- Started app to help people reduce food waste by planning weekly meals and making smart shopping lists
- Devised a clean, interactive UI in CSS that encourages user interaction
- Presented the Waste Reducer App at a TEDx Talk in Santa Cruz