Saul H. Serrano

Sacramento, CA
510-439-8694 shserranogutierrez@csus.edu linkedin.com/in/saul-serrano– github.com/Sserano24

Education

California State University Sacramento **Expected Graduation: Fall 2025**
B.S in Computer Engineering *Sacramento, CA*

Relevant Coursework

- Operating System Pragmatics
- Attacks & Countermeasures
- Computer Organization
- Embedded Systems
- Computer Networks
- UNIX
- CMOS & VLSI
- Computer Software Engineering
- Data Structures & Algorithms
- Object Oriented Programming
- Network Analysis
- Electronics

Work Experience

Costco Wholesale **July 2020 – Present**
Backup Supervisor, Cashier, Baker *Sacramento, CA*

- Led a team of 10+ associates in high-volume retail operations, using analytics to optimize product placement and streamline workflow.
- Trained and mentored new team members, creating peer on-boarding guide that reduced training time by 20% and increased role readiness
- Adapted rapidly to shifting priorities during high-traffic sales events, optimizing task delegation and schedule adjustments to improve team coordination and member experience
- Boosted Executive Membership conversions by 30% during events through tailored customer engagements and personal spending analytics

ACR Glass and Doors **June 2019 – August 2019**
Project Manager Intern *Oakland, CA*

- Designed 2D schematics based on project specifications and city regulations to ensure compliance and accuracy.
- Collaborated with multiple teams to procure necessary materials by using effective written and verbal communication
- Enhanced professional skills in email correspondence and document management to improve organizational efficiency.

Project Experience

CrowdX - Full-Stack Web Application | *Python, JavaScript, Solidity, Django, Next.js* **2/25 - 5/25**

- A crowdfunding platform that enables users to create and manage campaigns, and collect contributions via credit/debit and cryptocurrency payments
- Implemented secure and scalable APIs using Django REST Framework to support user registration, authentication, and CRUD operations on stored data.
- Integrated dynamic frontend components in Next.js to deliver a responsive, real-time user experience with smooth API interactions.
- Structured project using a modular codebase and followed Git-based version control workflow to support effective team collaboration and long-term maintainability.

Stinger Sprint - Video Game | *Python, VS Code* **2/25 - 5/25**

- Designed and developed a 2D arcade-style game using the Pygame framework, implementing real-time user input, sprite animation, and collision detection for interactive gameplay.
- Collaborated in a SCRUM-based team environment, managing sprints, assigning tasks, and tracking milestones to ensure timely project delivery.
- Created engaging game mechanics and interactive UI elements to enhance player experience, incorporating score-based progression and competitive elements to encourage replayability
- Used Git and GitHub to coordinate version control and code collaboration, enabling efficient teamwork and issue tracking and risk assessment throughout development.

Simple Operating System Development | *C, CSUS SPEDE* **2/25 - 5/25**

- Built a custom operating system in C from the ground up, applying core OS concepts such as process creation, context switching, memory management, and user I/O handling.
- Transformed theoretical knowledge into practice through phased development on a virtualized Linux environment, debugging system behavior across milestones.
- Collaborated in a team-based setting using Git, GitHub, and GDB to manage version control, track issues, and troubleshoot kernel-level bugs efficiently.

Home Lab - SOC Automation | *Cloud Infastructure, SIEM, Case Management* **8/24 - 11/24**

- Built a scalable home security operations lab using DigitalOcean VMs, configuring cloud infrastructure for efficient virtual machine deployment and management.
- Deployed Wazuh SIEM for real-time log aggregation and threat detection across virtualized systems.
- Integrated The Hive case management platform and Shuffle automation to streamline incident response and event triage workflows.
- Automated malware detection and alert response using orchestration pipelines, reducing manual investigation time and enhancing operational readiness.
- Produced detailed documentation and architecture diagrams to reinforce applied concepts in cybersecurity, cloud computing, and SOC workflows.

Mobile-Operated RC Vehicle | *Embedded C, STM32, UART, PWM, Bluetooth* **8/24 – 11/24**

- Engineered an RC vehicle controlled via Bluetooth by programming servo and DC motor control logic in embedded C on an STM32 microcontroller.
- Implemented UART-based serial communication to receive wireless commands and modulate PWM signals for real-time motor actuation.
- Troubleshot hardware-software integration using a UNIX terminal and Analog Discovery Oscilloscope to verify signal timing, connectivity, and motor response.

Arithmetic Logic Unit (ALU) | *Cadence Virtuoso, CMOS Circuit Design* **2/24 – 5/24**

- Designed an 8-bit Arithmetic Logic Unit using 45nm CMOS technology, building custom schematics and layouts for core components including logic gates, adders, subtractors, and multipliers.
- Verified circuit validity and design integrity by successfully passing Design Rule Check (DRC) and Layout Versus Schematic (LVS) reports in Cadence Virtuoso.
- Demonstrated understanding of digital logic and physical layout constraints while optimizing for performance.

Technical Skills

Programming Languages: Python, C, Java, HTML/CSS, Javascript, VHDL, Verilog
Tools & Platforms: VSCode, Git, GitHub, Docker, Linux/UNIX, Wireshark, Cadence Virtuoso
Frameworks & Technologies: Django, Next.js, PostgreSQL
Languages: Spanish (Native), English (Native)