

# Saul Diaz

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## Education

**University of California, Santa Barbara** | Santa Barbara, CA  
Bachelor of Science, Computer Engineering

**08/2022-06/2026**

## Courses

- Foundations of Analog and Digital Circuits and Systems
- Fundamentals of Logic Design
- Data Structures and Algorithms
- Embedded Systems
- Computer Architecture Fundamentals
- Object Oriented Design and Implementation

## Projects

### Personalized Lightbox

- Employed Arduino Mega for concurrent interfacing with an LED Matrix and PS2 Keyboard, ensuring efficient parallel processing.
- Integrated specialized libraries to enable real-time interpretation of user input from the PS2 Keyboard and dynamically display it on the LED Matrix.
- Implemented advanced functionalities, including customizable LED colors, dynamic flashing patterns, and geometric shape rendering, utilizing the full capabilities of the hardware components and libraries.

### Embedded Systems Motor and UART Control Project

- Developed a motorized door control system using an STM32 microcontroller, integrating UART, SPI, and I2C communication with sensors and actuators for real-time operation.
- Implemented DMA for efficient UART communication, optimizing SysTick-based timing for precise motor control and state management.
- Debugged and optimized system performance, ensuring reliable operation under varying conditions and seamless hardware coordination.

## Experience

**UC Santa Barbara Promis Scholar Mentorship Program** | Santa Barbara, CA

**2023-present**

### Mentor

- Mentored incoming freshmen in a six-week program, conducting weekly Zoom calls and providing one-on-one information sessions.
- Emphasized accessibility by encouraging mentees to reach out with questions, fostering a supportive environment.
- Demonstrated reliability by staying available to address questions and concerns, showcasing commitment to mentorship.

**Entrepreneur, e-commerce** | Long Beach, CA

**2020- present**

### Co-owner

- Established and managed a successful resale business focused on highly sought-after shoes and clothing.
- Leveraged social media platforms, especially Instagram, to promote and sell highly sought-after items.
- Maintained an organized inventory and conducted transactions on various resale markets. Demonstrated effective marketing and sales strategies to maximize product visibility and profitability.

## Technical Skills

### Languages

- C++ (3yrs), Python (3yrs), Arduino IDE (2yrs), Verilog (2yrs)

## Honors and Awards

**UC Santa Barbara Promise Scholar** | Santa Barbara, CA

**09/2022 - present**

- Selected as a Promise Scholar based on academic potential and educational background.

**UC Santa Barbara College of Engineering Dean's Honor** | Santa Barbara, CA

**12/2022**