

# Riley Mathews

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## EDUCATION

### San Diego State University

*Bachelor of Science in Computer Science, Bachelor of Science in Finance*

GPA: 3.46/4.0

*Completed May 2025*

## INTERNSHIP EXPERIENCE

### Software Developer Intern

*Tourneau*

Summer 2019

*New York, NY*

- Automated inventory management system using Google Scripts to streamline identification of aged or damaged inventory, resulting in 18% decrease in stagnant inventory.
- Achieved an 18% reduction in damaged inventory downtime, with an automated workflow that notified store managers of action items and facilitated service requests via customized Google Forms.
- Used HTML and CSS to implement front-end enhancements on a website generating over \$50 million in online sales to drive seamless user experiences and design consistency.

### Financial Advising Intern

*Bank of America*

Summer 2022

*Los Angeles, CA*

- Achieved a 13% higher than average return rate by identifying requirements.
- Developed data-driven strategies for personalized financial planning, utilizing advanced Excel techniques to analyze client data and provide tailored recommendations.

## PROJECTS

### Demand Paging Simulator | C, Multilevel Page Table, WSClock Algorithm

April 2025

- Simulated demand paging with a customizable multi-level page table on a 32-bit virtual address space.
- Implemented page fault handling using **WSClock replacement algorithm** to manage physical memory.
- Processed real memory trace data, emulating MMU address translation with bitmasking and shifting.

### Multithreaded Car Assembly Line | C, Pthreads, Semaphores, Producer-Consumer Model, GDB

March 2025

- Built a **multithreaded pipeline** simulating a three-stage car assembly line using POSIX threads and semaphores.
- Implemented synchronization for **bounded buffers** shared by producers and consumers at each stage.
- Utilized **GDB** to debug race conditions and verify thread synchronization, including breakpoint tracing

### SKU Tree System | C, Pointer-based Tree, Command-line Tool, Makefile

January 2025

- Developed a data-structure to store hierarchical SKU codes, mimicking **filesystem tree structures**.
- Supported operations to insert, find, and count SKUs via command-line tool compiled with a custom **Makefile**.

## OTHER WORK EXPERIENCE

### Member Services Lead - S.A.L.T. President

*Associated Students of SDSU*

June 2023 - Present

*San Diego, CA*

- Elected President of internal leadership group by peers to oversee staff appreciation, community outreach, and drive community-building efforts within the organization.
- Increased culture capital and commitment to organizational values, shown by an 11% increase in employee engagement, by interviewing, onboarding, and training over 30 new staff

## TECHNICAL SKILLS

**Languages:** C, C++, Python, Assembly, Bash, SQL

**Embedded Systems:** FreeRTOS, Arduino, I2C, SPI, UART, GPIO, PWM, Interrupts

**Developer Tools:** GDB, Git, Linux, JTAG, VS Code, PlatformIO, Make, NVim, Logic Analyzer

**Software Engineering:** Concurrent Programming, RTOS Concepts, Low-Level Debugging, Memory Management

**Scripting & Automation:** Python (pytest, unittest), Bash, Data Logging, Sensor Testing

**Other Tools:** LogicWorks, Visual Studio, Google Cloud (basic), LaTeX