# Adrian Hernandez

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## SKILLS

**Technical Skills (Programming Languages)**: Python, Java, C++, C#, R, MATLAB, JavaScript, SQL, HTML, CSS, x86 Assembly.
**Software**: PyTorch, OpenCV, React, Next.js, VScode, Qt Creator, SQLite, RStudio, Kali Linux (VM), Microsoft 365, PASCO Capstone, JupyterNotebook, MySQL Workbench, Microsoft Azure.
**Soft Skills**: Leadership, Customer Service & Relationship Management, Communication, Time Management & Multitasking, Problem Solving, Teamwork, Adaptability, Public speaking.
**Languages:** Fluent in Spanish & English.

## EDUCATION

**California State University, Fullerton (CSUF)** Fullerton, CA
Bachelor of Computer Science Expected May 2026
Major in Computer Science; Minors in Cybersecurity and Mathematics
Cumulative GPA: 3.2/3.3
Relevant Coursework: R & RStudio programming, Statistics Applied to Natural Science, Mathematical Structure (1 & 2), Cybersecurity, Algorithm Engineering, Software Engineering, Operating System Concepts, Computer Organization & Assembly Language.

**Cypress College** Cypress, CA
August 2019 - May 2024
Relevant Coursework: Data Structure, Python programming, Java programming, Intro to Programming C++, C# programming, Calculus (1 & 2), General Physics (1 & 2).

## PROJECTS

**Hash Cracker (~20+hours)** Aug 2024 – Aug 2024
Python | Cryptography | Cybersecurity | Linux
- Developed a password hash cracking tool to analyze and verify hashed credentials using common cryptographic algorithms.
- Implemented dictionary-based and brute-force attack techniques to test hash strength and password security.
- Supported popular hashing algorithms (e.g., MD5, SHA-1, SHA-256) for comparative analysis.
- Automated hash comparison and matching processes to improve efficiency and accuracy.
- Designed the tool to run in Linux environments, reinforcing command-line and scripting proficiency.
- Strengthened understanding of secure password storage, hash vulnerabilities, and defensive security practices.

**Library++ (~60+hours)** Oct 2025 – Dec 2025
C++ | Qt Creator | SQLite | Object-Oriented Design
- Designed and developed a desktop library management application using C++ and Qt Creator with a SQLite backend.
- Implemented core features including book search, detailed book information views, and dynamic UI components.
- Applied object-oriented programming principles to structure application logic and improve maintainability.
- Designed and documented system architecture using UML diagrams (Use Case, Class, and Activity diagrams).
- Integrated database queries for efficient data retrieval and updates
- Ensured application stability and consistency across development environments
- Used GitHub for version control and collaborative development

**End-to-End Machine Learning Project (~80+hours)** July 2025 – Dec 2025
Python | Pandas | NumPy | Scikit-Learn | Azure Machine Learning
- Designed and implemented a complete machine learning pipeline covering data ingestion, preprocessing, model training, and evaluation.
- Performed data cleaning, feature engineering, and exploratory data analysis (EDA) to improve model performance.
- Trained and evaluated multiple models using Scikit-Learn, comparing performance with appropriate metrics.
- Integrated experiments with Azure Machine Learning to manage runs, track results, and support reproducibility.
- Structured code in a modular and scalable manner to support future enhancements and maintenance.
- Documented project workflow, assumptions, and results to ensure clarity and reproducibility.

**PicoBoot GCN Loader — GameCube Bootloader (~20+hours)** Nov 2024 – Dec 2024

C | Python | CMake | Shell | Embedded Systems | Hardware Security

- Implemented and configured a PicoBoot-based bootloader using a Raspberry Pi Pico microcontroller to interact with the Nintendo GameCube boot process.
- Developed and modified C-based low-level code to control timing-sensitive hardware interactions during system startup.
- Utilized Python and shell scripts to automate build, flashing, and deployment workflows.
- Employed CMake to manage cross-platform builds and project configuration.
- Performed hardware-level interfacing and signal timing to inject and execute custom code during boot.
- Analyzed legacy console boot mechanics to understand firmware trust assumptions and security weaknesses.
- Strengthened understanding of secure boot architectures and embedded system security principles.

## WORK EXPERIENCE

**Walmart** Westminster, CA

Sales Associate/Stocker Associate / Electronic Associate / Cashier / Customer Service Feb 2017 – Present

- Analyzed product demand and inventory movement patterns to support restocking and loss-prevention decisions.
- Maintained accuracy in high-volume transactional systems, ensuring data integrity across sales and inventory platforms.
- Demonstrated strong problem-solving and troubleshooting skills in fast-paced, high-pressure environments.
- Utilized internal point-of-sale systems and digital tools to track sales performance and customer trends.
- Applied analytical thinking to identify inefficiencies in product placement and customer flow.
- Collaborated with cross-functional teams to improve operational workflows under time-critical conditions.

**El Pollo Loco** Anaheim, CA

Cashier /Food Handler / Food prepping / Customer Service July 2018 – March 2019

- Managed time-sensitive workflows while handling concurrent tasks under strict performance constraints.
- Executed standardized operational procedures with precision to ensure consistency and quality control.
- Ensured compliance with safety and quality protocols through structured checklists and verification steps.
- Applied process optimization principles to reduce service delays and operational bottlenecks.
- Collaborated with team members to maintain system efficiency during peak service periods.
- Strengthened communication skills through real-time issue resolution and coordination.

## CLUBS & ORGANIZATIONS

**EXTENDED OPPORTUNITY PROGRAM AND SERVICES (EOPS) PROGRAM** Cypress, CA

Member August 2019 – May 2024

- Collaborated with peers and advisors to navigate academic planning, resource allocation, and transfer requirements.
- Supported onboarding and guidance for new participants by clarifying processes and resolving academic uncertainties.

**PUENTE PROGRAM** Cypress, CA

Member July 2020 – May 2024

- Mentored Spanish-speaking students transitioning into college, improving communication and academic planning skills.
- Assisted students in balancing coursework, work, and personal responsibilities through structured guidance.