Andrew Ruiz

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Education

California State Polytechnic University, Pomona (Cal Poly Pomona) **Graduated: May 2025**
Bachelor of Computer Engineering *Pomona, CA*

- Cum Laude — **GPA: 3.53**
- Courses: Control Systems Engineering, Crypto Hardware Algorithms, Network Forensics, Communication Systems, Operating Systems for Embedded Apps, Digital Logic Design, Computer Architecture, Data Structures and Algorithms, Fundamentals of Cybersecurity

Work Experience

Hugo's Specialties Inc. **Apr 2023 – Apr 2025**
CNC Programmer and Operator *Baldwin Park, CA*

- Programmed and operated CNC machines to produce over 1,500 precision components, maintaining tolerances within ±0.0005 inches.
- Optimized G-code for various machining operations, reducing production time by 20% and increasing tool life by 15%.
- Collaborated with engineering teams to interpret technical drawings, leading to a 10% reduction in design-to-production time.

Software Engineering Intern **Jun 2024 – Aug 2024**
Open Source Robotics Foundation (OSRF) *Remote*

- Contributed to the development of the Robot Operating System (ROS), enhancing middleware communication protocols to improve data throughput by 25%.
- Implemented and tested new features in C++ and Python, resulting in a 15% increase in system performance and reliability.
- Collaborated with a global team of 10+ developers through code reviews and virtual meetings, gaining experience in distributed software development.

Projects

Autonomous Drone Docking System | *Senior Design* **Raspberry Pi 5 | AES | Python | C | OpenSSL | Sockets**

- Built a real-time AES-encrypted video/audio communication system between two autonomous drones over TCP, achieving secure transmission at 30+ FPS.
- Integrated Raspberry Pi 5's crypto engine, improving encryption speed by 40% compared to software-only methods.
- Engineered a C-based multiplexed server and Python GUI that enabled two-way encrypted telemetry and control.

Cloud-Native File Vault System | *Cloud Security Project* **Rust | AWS S3 | Lambda | DynamoDB | OpenSSL**

- Built a secure cloud vault to encrypt, store, and retrieve files from AWS S3 using Rust and OpenSSL with sub-100ms response time.
- Implemented serverless architecture with AWS Lambda + DynamoDB, supporting 10,000+ secure uploads per day.
- Wrote unit-tested Rust modules to handle real-time crypto and token validation logic.

Full-Stack Bucket List App | *Web + Mobile Development* **SwiftUI | Firebase | TypeScript | React | Firestore**

- Developed a real-time iOS app enabling users to share and edit bucket list items with photos, supporting 200+ active users.
- Implemented Firebase Auth, Google Sign-In, and Firestore security rules to manage access and sync across devices.
- Built the backend dashboard using React + TypeScript for mobile content moderation and analytics.

Leadership

Tech Study Group Facilitator | *Cal Poly Pomona* **Jan 2024 – May 2024**

- Organized weekly peer-led study sessions for 10+ students in courses like Operating Systems and Cybersecurity.
- Helped classmates debug code, review concepts, and prepare for exams, improving average group grades by 12%.

Technical Skills

Languages: Python, Rust, Java, Go, C, C++, C SQL, JavaScript, HTML, CSS, VHDL

Frameworks/Libs: React, Next.js, Node.js, Spring Boot, Vue.js, OpenSSL, Firebase

Tools/Platforms: AWS (Lambda, S3, DynamoDB), Azure, Docker, Git, Postman, Jira, PowerBI