

# Erick Alanis

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## EDUCATION

UNIVERSITY OF COLORADO BOULDER, Boulder, CO

Expected December 2024

### *Bachelor of Science in Computer Science*

- GPA: 2.96
- Hispanic Scholarship Fund Recipient
- Relevant coursework: Operating Systems, Network Systems, Linux System Administration, Ethical Hacking, Compiler Construction, Computer Organization

## SKILLS

- Programming Languages: (proficient): Java, C++, C, HTML/CSS, JavaScript, Python, x86-64, RISC-V, (familiar): C#.
- Relevant Programming Software and Hardware: CLion, IntelliJ, JProfiler, WSL, Eclipse, VSCode, Unity, Oracle VM VirtualBox, VMWare, Git, GitHub, GDB Debugger, Windows OS, MacOS, Multiple Linux distributions, Bash scripting, knowledge of revision control systems. Arduino IDE, Raspberry Pi, REST API, NodeJS, OpenAI API, ESP32 Dev Boards.
- Spoken Languages: English (Native), Spanish (Native), Japanese (familiar).

## EXPERIENCE

NVIDIA, California

May 2024 - August 2024

### *Embedded Systems Intern*

- Contributed in resolving bugs in flashing tools on Tegra products using C and Bash, improving system stability.
- Developed a data analysis pipeline involving 60+ test results with MongoDB, Streamlit, and Python, improving QA test result accessibility with an improvement in developer productivity.
- Designed a portable solution for flashing Tegra products using Docker, allowing flashing from multiple operating systems.

THE UNIVERSITY OF COLORADO BOULDER, Colorado

August 2022 - December 2022

### *OIT Technician*

- Controlled visual and audio systems with 80+ managed settings and sustained live feed of class using AV equipment, providing students with recordings of their classes.
- Supervised and maintained the quality of 6+ equipment in lecture rooms preemptively allowing instructors to focus on teaching their class.
- Supplied instructors with less than 1 minute response time for any technical issues by monitoring a live class feed, minimizing disruptions to class time.

COLLEGIATE PENETRATION TESTING COMPETITION, California

November 2023

### *Team Member*

- Worked with numerous tools included in the Kali Linux distribution to find security vulnerabilities in the simulated scenario with 6 other people to be quick and efficient.
- Looked through 4 different subnets covering 1024 IP addresses using tools such as NMap and NetCat to see open ports, allowing the discovery of attack vectors.

## PROJECTS

NESEMU

### *A Nintendo Entertainment System emulator*

July 2023 - Current

- Implemented all 56 official 6502 instructions and 256 unofficial instructions and their multiple addressing modes allowing for wide compatibility with ROMS.
- Used C++ to accurately emulate low-level operations of the NES hardware, increasing emulation accuracy..
- Utilized bitwise operations for tasks such as memory addressing, memory mapping, and I/O port control for accuracy.

ALLSHOP MC

### *A Minecraft Plugin For Servers*

September 2020

- Utilized in large Spigot based servers from versions 1.14 through 1.16 by implementing an in-game market and auctioning system for players.
- Designed with Java and utilized the IntelliJ IDE, the Spigot API and the Vault API.
- Allowed management of 8 controlled features through a YML setting file, including server performance impact, to allow customizability for server owners to meet their needs.