




Bradley Kenneth Hutchings

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EDUCATION

Colorado School of Mines - Golden, CO

July 2021 - May 2025

Bachelor of Science, Computer Science

CSCI GPA: 3.04

Napa Valley College - Napa, CA

January 2017 - January 2021

TECHNICAL SKILLS

Languages	Python3, C/C++, Go, JavaScript, Postgres
Dev. Tools	Linux, Docker, Git, Makefile, Nix, Nginx, S3 Bucket
Libraries	Node.js, Express.js, Flask, NumPy, Pandas, Matplotlib, SciKitLearn

WORK EXPERIENCE

Contractor Work: Tech Lead & Manager - SwingLens LLC

May 2025 - June 2025

- Managed a team of 7 intern engineers whilst working closely with other advisors.
- Advised on **Python**, **Flask**, **Hardware** configuration, and industry programming practices.
- Developed and open-sourced a **Python** tool for importing **Jupyter Notebooks**.

Research Internship - CSM & National Science Foundation

May 2024 - September 2024

- Automated data aggregation, filtering, and processing with **Python** and **Pandas**.
- Trained **SciKitLearn** models to identify vulnerable network data.

Product Development Internship - Analytical Data Systems

May 2023 - August 2023

- Developed a toolchain to have LLMs to introspect and reprompt for more normalized results based on user-defined qualities.
- Implemented several interfaces to interact with the service from Discord or a custom web client in **JavaScript**.

PROJECTS

Muserve App - Author

July 2025 - Present

Self hosted music streaming service with future plans of developing compatible hardware.

- Hand rolled, multiprocess safe, authentication using **python**, **JWTs**, and **sockets**.
- Safe data ingest with **mimetype detection**, conversion to **Vorbis ogg**, and storage in **postgres**.
- Web UI written in modular **JavaScript**, using **Flask** templates on static routes.
- Separation of internal and external network via **Nginx Proxying**

Distributed Custom ISA Execution Environment - Author

April 2025 - Present

Designed a custom computing ecosystem, including an **Instruction Set Architecture** (ISA), **Assembler**, **Virtual Machine** (VM), and a **TCP** machine state transmission networking protocol. The system enables distributed execution of custom machine code across a client-router-server architecture.

- The custom **8-bit ISA** is executed by a corresponding **VM** developed in **Go**, featuring 256-bytes of RAM.
- The custom **TCP** networking protocol implemented in **Go**, enables distributed execution by transmitting machine state packets between client, router, and server.
- The **assembler** translates human-readable assembly into the custom ISA's machine code using a **LL(1) Tabular Parser** dynamically generated applying **Formal Language Theory**.

Robotics Software Engineer - FRC #7667

November 2018 - June 2019

- Competed in the 2019 Houston World Championship.
- Fabricated and implemented a game piece manipulation mechanism using **C++** and **WPILIB**.

Last Updated: September 13, 2025