# Shawn Prather

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## Education

**Colorado School of Mines** – Golden, CO — Aug 2025 – Dec 2026
MS in Machine Learning

**Colorado School of Mines** – Golden, CO — Aug 2024 – May 2026
BS in Computer Science — **GPA:** 3.86

**Red Rocks Community College** – Lakewood, CO — May 2023 – Aug 2024
AS in Computer Science — **GPA:** 3.96

## Experience

**Software Developer Intern,** Lockheed Martin – Littleton, CO — May 2025 – Present

- Refactored and optimized legacy code by migrating to **C#** using **.NET Core** best practices and **LINQ**, implementing more efficient algorithms to reduce program execution time by **35%** and to cut technical debt
- Ensured **RTB** compliance as given by the **NCDSMO** whilst working on the team's **Cross Domain Solution**
- Built a file-integrity validation process using **XML Signatures**, **SHA-384 hashing**, and **RSA-SHA verification**, catching **100%** of simulated tamper or dangerous file attempts during testing
- Utilized **Bazel**, **Jenkins**, **RPM packaging**, and **Podman** to effectively build and test systems to help run automated and simulated real world tests to find and solve security bugs
- Participated in **PI planning** and **Wall Walks**, worked through stories in **Jira/Confluence** within **Agile Scrum** teams

**Undergraduate Researcher,** Aria Lab @ Mines – Golden, CO — Aug 2024 – Present

- Engineered a **Docker-powered RTK-GPS** solution, achieving **2 cm accuracy** for use on robots and drones to track and test different **SLAM algorithms** in challenging weather such as snow and rain
- Automated remote station setup and pipelines to allow for communication with **currently 4** hard to reach base stations and on the ground robots as well as seamless integration into current **SLAM** evaluation workflows

**Full Stack Developer,** Packtrain – Golden, CO — Dec 2024 – May 2025

- Scaled software alongside 4 other students from an **initial 900 students** to **supporting 450+ instructors and over 7,500 students** to allow for efficient multi-domain course grading and management
- Designed and implemented **REST APIs** with **CRUD** functionality using **Spring Boot(Java)**, **PostgreSQL**, **React-Typescript**, and deployed via **containerized CI/CD pipelines** on self hosted servers

**Coding Instructor,** Code Ninjas – Arvada, CO — Dec 2019 – Aug 2024

- Developed and maintained eight **Linux-based server**s to host learning and game activities increasing open hours by **17%** and generating new event revenue
- Tutored over **50** students across **C++**, **JavaScript**, **Python**, and **C#**, helping to increase their project grades by **30%** and guide them from beginner to advanced proficiency in coding concepts and best practices

## Skills

**Coding Languages:** C++, C#, C, Java, Python, Go, JavaScript, HTML/CSS, Bash, React-Typescript
**Technologies:** PyTorch, Spring Boot, Docker, Git, Kubernetes, PostgreSQL, AWS(S3, RDS, EC2)
**Other Skills:** Agile, Scrums, Jira, TDD, Linux/Unix, Conversational Japanese, 3D Modeling, PCB Design
**Security Clearance:** Secret

## Projects

**Full Stack Neural Network with User Feedback (In Progress)**

- Engineer a real-time, **user-driven neural network** for Super Mario Kart that trains on live feedback given by users
- Develop the full-stack interface with **Django**, **Next.js/React**, and **RabbitMQ** to stream gameplay data, handle API requests, and to relay votes to the model

**NP-Hard Competition Solution**

- Collaborated in a 3-person, 72-hour **NP-Hard Hackathon** to tackle the Tents-and-Trees problem
- Developed a **multi-threaded genetic algorithm** in **C++** using **Agile** optimizing each iteration to less than **0.1 seconds** for each **100,000 tiles** which secured a top **20%** in the competition

**IoT Alarm Clock**

- Designed **custom PCB** with a **ESP8266 chip** to host a web server and download updates with **100% uptime**
- Built **browser-based UI** control panel for remote alarm scheduling, ringtone selection, and region/time zone setup