Owen Friedman

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Experience

Stable Hand – Taktur Icelandics

July 2021 | July 2022 | May 2023

While initially hired for a week of minor maintenance, I have been asked to return over the following years. During my employment, I cleared and repaired fence lines, helped care for horses, and diagnosed then repaired issues with the water system.

Eagle Scout Project – BSA

January 2023 - February 2023

The Eagle Scout project I proposed, planned, and implemented was to clear and mark 2.7 miles of trail in a local wildlife management area. In addition, I designed and built signage and other infrastructure. I organized the 11 volunteers into three groups, delegating leadership to the more senior scouts in each group. The volunteers grew tired from the strenuous work, so after feeding them dinner, I transported and installed the remaining 200 pounds of materials myself.

Senior Patrol Leader – BSA

July 2020 - December 2022

As elected senior patrol leader, I oversaw troop meetings, agendas, and activities for 15–20 scouts. I was also responsible for developing meal plans, equipment lists, etc. and resolving conflicts between scouts when necessary.

Skills

Languages	Rust	Python	Lua	C#	SQL
Tools	Git	Linux	Docker	Google Sheets	Helix

Education

High School Diploma

September 2018 - May 2022

I was homeschooled by my mother, who has a Master's degree in Waldorf Education. For the past two years, I have continued my education with books and online resources such as Khan Academy and MIT's collection of free online computer science and math courses.

Projects

Custom Compiler – Rust

https://github.com/5-pebbles/dianac

This compiler converts an ASM-like language into machine code for the Diana-II, a custom 6-bit MISC-CPU I am designing.

- **Highlevel:** This language simplifies programming for the Diana-II by offering high-level abstractions over the minimal instruction set.
- **Emulation REPL:** The project includes a REPL to emulate and debug a static binary or interpret the source code directly.

Unobstructed Rectangle Sweep Line Algorithm – Rust

https://github.com/5-pebbles/rect-lib

I was unable to find an efficient solution to this problem, so I developed my own algorithm and library. It identifies unobstructed sub-rectangles within a given rectangle by comparing them against a list of obstructions.

- **Efficiency:** This algorithm's speed is independent of rectangle size, making it much faster than the common grid-based approach.
- **Documentation:** An explanation of the algorithm, complete with diagrams, is available in the explanations directory of the repository.

Music API – Rust and SQLite

https://github.com/5-pebbles/tuna

I developed this API for sharing and collaboratively maintaining music libraries.

- **User Management:** It features a comprehensive system for managing other users, invites, and permissions.
- **Documentation and Testing:** Automated Open-API documentation generation and end-to-end testing with Hurl.