

# Owen Friedman

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## Experience

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### 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

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|           |      |        |        |               |               |
|-----------|------|--------|--------|---------------|---------------|
| Languages | Rust | Python | Lua    | C#            | SQL           |
| Tools     | Git  | Linux  | Docker | Google Sheets | Documentation |

## Education

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### 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

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### 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.