

# Robert Morelli

[github.com/robertmorelli](https://github.com/robertmorelli)

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## Education

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**B.S. Computer Science (in progress)** University of Utah  
**A.S. Computer Science (incomplete)** SLCC

2022 - 2027 expected  
2019 - 2022 transferred

## Technology

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### Comfortable Languages

- Python, C, Zig, Dart, JS, TS, WASM (WAT), Java, C#

### Familiar Languages

- Ruby, C++, Rust, Swift, Metal, OpenCL, Typst, F#, x86 assembly, MIPS assembly, PHP, Bash

### Misc

- Flutter, Angular, Laravel, cicd/github actions/circleCi, css, html/svg, mongoDB, Cordova

## Experience

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|---|---------------------------|---------------------|
| <b>Research Assistant</b>   | University of Utah        | Nov 2025 - present  |
| • Benchmarking gradual typing in Meta's Cinder variant of python                                    |                           |                     |
| <b>Teaching Assistant</b>   | University of Utah        | Apr 2025 - present  |
| • Leading labs, grading, assisting students for COMP 1020   |                           |                     |
| <b>Software Engineer/Dev ops</b>  | Stutor Inc.               | Sep 2023 - Apr 2024 |
| • Architected CICD pipeline   |                           |                     |
| • Optimized DB indexes, reducing query times by up to 8x  |                           |                     |
| <b>Web Developer/Dev Ops</b>  | Jerran Software Solutions | Apr 2022 - Sep 2023 |
| • Overhauled LDS MTC QA/CICD workflow, substantially reducing regression burden                     |                           |                     |
| • Rewrote Embark app startup to reduce first time loading by up to 50% for users with poor internet |                           |                     |
| <b>Research Assistant Intern</b>  | Earl Keefe PhD            | Nov 2020 - Jun 2021 |
| • Visualizations for anthropology research  |                           |                     |
| <b>Web Dev. Intern</b>  | Frelii                    | May 2019 - Sep 2019 |
| • Web scraping SNPedia for AI training  |                           |                     |

## Projects

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|   |      |
|---|------|
| <b>Optimized bead/gravity sort zig</b>  | 2026 |
| • Bead sort done via popcount intrinsics and bit matrix transpositions. Only for 32 u5s |      |
| <b>Tiny nkey rollover tester OS zig</b>   | 2025 |
| • Ported as OS class assignment to zig and then added keyboard input and vga output     |      |
| <b>Fast approximate change of base python</b>   | 2025 |
| • Novel algorithm for printing numbers larger than $10^{10^5}$ efficiently              |      |
| <b>Automated resume typst</b>   | 2025 |
| • CICD typst resume   |      |
| <b>Held-karp zig</b>  | 2025 |
| • Well optimized bitset based Held-karp TSP algorithm                                   |      |
| <b>Spreadsheet formulas to DLL compiler c</b>   | 2025 |
| • A spreadsheet which compiles formulas to a DLL which can be used in DOTNET projects   |      |
| <b>Color alchemy qt c++</b>   | 2024 |
| • A game for learning color mixing  |      |
| <b>CSS grid examples css html</b>   | 2024 |
| • Examples of common design patterns implemented with css grid as a good reference      |      |
| <b>Randomized Pacman game java</b>  | 2021 |
| • Pacman game using some algorithms from my 2420 class: A*, DFS, BFS, Union find        |      |

## Misc

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|---|----------|----------|
| <b>Added code field to instruction decoder</b>            | MARS IDE | 2025     |
| <b>#12 Ranked team at Rocky Mountain Regional Contest</b> | ICPC     | 2025     |
| <b>Jane Street Leaderboard</b>                            |          |          |
| • <b>Number Cross 5</b>                                   |          | May 2025 |
| • <b>Sum One, Somewhere</b>                               |          | Apr 2025 |