

# Robert Morelli

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

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## Education

<b>B.S. Computer Science (in progress)</b> <i>University of Utah</i>	2022 - 2027 <i>expected</i>
<b>A.S. Computer Science (incomplete)</b> <i>Salt Lake Community College</i>	2019 - 2022 <i>transferred</i>

## Technology

### Expert

- Zig, Dart, JS, WASM (WAT), CSS, SVG, GitHub Actions, MIPS asm

### Proficient

- Angular, C, C#, Cordova, Flutter, HTML, Java, Python, TS, Typst

### Familiar

- Bash, C++, CICD, CircleCi, Laravel, Metal, MongoDB, OpenCL, PHP, Ruby, Rust, Swift

## Experience

<b>Research Assistant</b> <i>University of Utah</i>	Nov 2025 - present
• Benchmarking gradual typing in Meta's Cinder variant of python	
<b>Teaching Assistant</b> <i>University of Utah</i>	Apr 2025 - present
• Leading labs, grading, assisting students for COMP 1020	
<b>Software Engineer/Dev ops</b> <i>Stutor Inc.</i>	Sep 2023 - Apr 2024
• Architected CICD pipeline	
• Optimized DB indexes, reducing query times by up to 8x	
<b>Web Developer/Dev Ops</b> <i>Jerran Software Solutions</i>	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%	
<b>Research Assistant Intern</b> <i>Earl Keefe PhD</i>	Nov 2020 - Jun 2021
• Visualizations for anthropology research	
<b>Web Dev. Intern</b> <i>Frelli</i>	May 2019 - Sep 2019
• Web scraping SNPedia for AI training	

## Projects

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

## Misc

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