

# ROBERT MORELLI

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## EDUCATION

**B.S. Computer Science (in progress)** *University of Utah*  
**A.S. Computer Science (incomplete)** *Salt Lake Community College*

2022 - 2027 *expected*  
2019 - 2022 *transferred*

## 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

### Research Assistant *University of Utah*

Nov 2025 - present

Benchmarking gradual typing in Meta's Cinder variant of python

### Teaching Assistant *University of Utah*

Apr 2025 - present

Leading labs, grading, assisting students for COMP 1020

### Software Engineer/Dev ops *Stutor Inc.*

Sep 2023 - Apr 2024

Architected CICD pipeline

Optimized DB indexes, reducing query times by up to 8x

### Web Developer/Dev Ops *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%

### Research Assistant Intern *Earl Keefe PhD*

Nov 2020 - Jun 2021

Visualizations for anthropology research

### Web Dev. Intern *Frelii*

May 2019 - Sep 2019

Web scraping SNPedia for AI training

## PROJECTS

### Optimized bead/gravity sort *zig ↗*

2026

Bead sort done via popcount intrinsics and bit matrix transpositions. Only for 32 u5s

### Tiny nkey rollover tester OS *zig ↗*

2025

Ported as OS class assignment to zig and then added keyboard input and vga output

### Fast approximate change of base *python ↗*

2025

Novel algorithm for printing numbers larger than  $10^{10^5}$  efficiently

### Automated resume *typst ↗*

2025

CICD typst resume

### Held-karp *zig ↗*

2025

Well optimized bitset based Held-karp TSP algorithm

### Spreadsheet formulas to DLL compiler *c ↗*

2025

A spreadsheet which compiles formulas to a DLL which can be used in DOTNET projects

### Color alchemy *qt c++ ↗*

2024

A game for learning color mixing

### CSS grid examples *css html ↗*

2024

Examples of common design patterns implemented with css grid as a good reference

### Randomized Pacman game *java ↗*

2021

Pacman game using some algorithms from my 2420 class: A\*, DFS, BFS, Union find

## MISC

### Added code field to instruction decoder *MARS IDE ↗*

2025

### #12 Ranked team at Rocky Mountain Regional Contest *ICPC ↗*

2025

### Jane Street Leaderboard

[Number Cross 5 ↗](#)

May 2025

[Sum One, Somewhere ↗](#)

Apr 2025