

# Robert Morelli

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

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## Education

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

2022 - 2027 *expected*

**A.S. Computer Science (incomplete)** *Salt Lake Community College*

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