

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

May 2025

- **Number Cross 5 ↗**

Apr 2025

- **Sum One, Somewhere ↗**