

Robert Morelli

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

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Education B.S. Computer Science • University of Utah

expected may 2027

Skills Proficient

Dart, JS, CSS, SVG, HTML, Java, Python, TS, Typst, GitHub Actions, Zig

Familiar

Angular, Bash, C, C#, Cordova, C++, CI/CD, CircleCI, Flutter, Metal, MongoDB, MIPS
ASM, OpenCL, PHP, Ruby, Rust, Swift, WASM (WAT)

Experience Research Assistant • University of Utah

oct 2025 –

Benchmarking gradual typing in Meta's Cinder variant of Python

Teaching Assistant • University of Utah

sep 2025 –

Leading labs, grading, assisting students in COMP 1020

Software Engineer/DevOps • Stutor Inc.

sep 2023 – apr 2024

Architected automation pipeline

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

Web Developer/DevOps • 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 Development Intern • Frellii

may 2019 – sep 2019

Web scraping SNPedia for AI training

Projects English language trie • zig wasm ↗

2026

Dictionary of 236k words embedded into a 4 MB wasm trie for easy autocomplete

VS Code typst extension • rust ts ↗

2026

Extension for typst development that works on the web version of VS Code

Lambda calculus beta reduction visualizer • js html ↗

2026

Trace argument through function application with useful highlighting

Optimized bead/gravity sort • zig ↗

2026

Bead sort via popcount intrinsics and bit matrix transpositions for 32 u5 integers

Tiny nkey rollover tester OS • zig ↗

2025

Ported as OS class assignment to zig, demo of keyboard in and vga out

Fast approximate change of base • python ↗

2025

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

Automated resume • typst ↗

2025

Automated typst resume deployed to website

Held-Karp • zig ↗

2025

Well optimized Held-Karp TSP algorithm using bitsets and Gosper's hack

Spreadsheet formulas to DLL compiler • c ↗

2025

Compiles formulas in a spreadsheet into a DLL

Color alchemy • qt c++ ↗

2024

Beautiful game for learning color mixing, properly using oklab color space

CSS grid examples • css html ↗

2024

Reference for common design patterns that should be implemented with css grid

Randomized Pacman game • java ↗

2021

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

Svg Animator • html js css ↗

2019

Svg animator inspired by ms paint

Misc

Contributed code field to instruction decoding • MARS IDE ↗

2025

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

2025

Jane Street Leaderboard

Number Cross 5 ↗

Sum One, Somewhere ↗