

Robert Morelli

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Education **B.S. Computer Science** University of Utah 2022 - 2027 *expected*
A.S. Computer Science (incomplete) SLCC 2019 - 2022 *transferred*

Technology **Comfortable Languages**
• Python, C, Zig, Dart, JS, TS, WASM (WAT), Java, C#

Familiar Languages
• Ruby, C++, Rust, Swift, Metal, OpenCL, Typst, F#, x86 assembly, MIPS assembly, PHP, Bash

Misc
• Flutter, Angular, Laravel, cicd/github actions/circleCi, css, html/svg, mongoDB, Cordova

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% for users with poor internet

Research Assistant Intern Earl Keefe PhD Nov 2020 - Jun 2021
• Visualizations for anthropology research

Web Dev. Intern Frelji 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