

Robert Morelli

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Education	B.S. Computer Science • University of Utah	expected 2027
Skills	Proficient Dart, JS, CSS, SVG, HTML, Java, Python, TS, Typst, GitHub Actions, Zig Familiar Angular, Bash, C, C#, Cordova, C++, CICD, CircleCI, Flutter, Metal, MongoDB, MIPS asm, OpenCL, PHP, Ruby, Rust, Swift, WASM (WAT)	
Experience	Research Assistant • University of Utah Benchmarking gradual typing in Meta's Cinder variant of python Teaching Assistant • University of Utah Leading labs, grading, assisting students for COMP 1020 Software Engineer/Dev ops • Stutor Inc. Architected automation pipeline Optimized DB indexes, reducing query times by up to 8x Web Developer/Dev Ops • Jerran Software Solutions 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 Visualizations for anthropology research Web Dev. Intern • Frelii Web scraping SNPedia for AI training	2025– 2025– 2023–2024 2022–2023 2020–2021 2019
Projects	Optimized bead/gravity sort • zig ↗ Bead sort via popcount intrinsics and bit matrix transpositions for 32 u5s Tiny nkey rollover tester OS • zig ↗ Ported as OS class assignment to zig, demo of keyboard in and vga out Fast approximate change of base • python ↗ Novel algorithm for printing numbers larger than 10^{10^5} efficiently Automated resume • typst ↗ Automated typst resume deployed to website Held-karp • zig ↗ Well optimized Held-karp TSP algorithm using bitsets and Gosper's hack Spreadsheet formulas to DLL compiler • c ↗ Compiles formulas in a spreadsheet into a DLL Color alchemy • qt c++ ↗ Beautiful game for learning color mixing, properly using oklab color space CSS grid examples • css html ↗ Reference for common design patterns that should be implemented with css grid Randomized Pacman game • java ↗ Pacman game using some algorithms from my 2420 class: A*, DFS, BFS, Union find	2026 2025 2025 2025 2025 2024 2024 2021
Misc	Contributed code field to instruction decoding • MARS IDE ↗ #12 Ranked team at Rocky Mountain Regional Contest • ICPC ↗ Jane Street Leaderboard Number Cross 5 ↗ Sum One, Somewhere ↗	2025 2025