

EDUCATION		
B.S. Computer Science (in progress)	University of Utah	2022 - 2027 <i>expected</i>
A.S. Computer Science (incomplete)	Salt Lake Community College	2019 - 2022 <i>transferred</i>

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