Michael Vertin
Software Engineer | Computer Science Graduate
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Summary

Computer Science graduate with strengths in algorithm optimization, scalable systems, and debugging. Rapid learner with proven success in competitions and projects, with experience deploying production-ready apps using Python, React, Flask, and Docker. Excited to apply and expand my skills in real-world software development.

Education

Northern Arizona University — Fall 2020 – Spring 2025
B.S. in Computer Science, Minor in Mathematics and Electrical Engineering
GPA: 3.73, Dean's List

Skills

Languages: Python, Java, C, C++, C#, JavaScript, TypeScript, HTML/CSS
Frameworks/Libraries: React, Flask, Node.js, Angular, Spring, JUnit, Javalin, Socket.IO
Databases/APIs: SQL, REST APIs, HTTP APIs, JDBC
Tools/Platforms: Git/GitHub, Docker, Docker Compose, AWS EC2, Linux
Core Skills: OOP, Debugging, Optimization

Experience

AI Code Reviewer - Data Annotation Tech — June 2025 - Present

- Designed programming prompts and tests to evaluate large language model (LLM) code generation.
- Conducted code reviews across Python, Java, C++, and JavaScript, identifying logic flaws, runtime errors, and inefficient implementations, and ensuring best practices (OOP, data structures, algorithm efficiency) are followed.
- Analyzed debugging and optimization techniques to validate software solutions and improve code quality.

Full Stack Developer - Cline Library — Fall 2024 - May 2025

- Worked in an internship style capstone with NAU's Cline Library, gathering requirements in weekly client meetings and delivering a production-ready image retrieval system.
- Enabled retrieval across 100,000+ archive documents using feature extraction and inner-product similarity.
- Deployed containerized backend/frontend on AWS EC2 for scalable, maintainable operation.
- Capstone Project Website

Teacher's Assistant - Northern Arizona University — Jan 2023 - May 2024

- Evaluated 3-5 programming projects weekly, reviewing code for correctness, readability, and coding style.
- Produced detailed written feedback explaining issues, their impact, and recommended fixes, often clarifying theoretical CS concepts in context.
- Assessed 100+ projects, strengthening my ability to recognize effective coding patterns and common pitfalls.

Projects

Word Search Optimization | Python | Github

- Won 1st place in class competition (~30 participants) after improving search performance by 550%-1300% over other submissions through targeted data structure optimizations and controlled set insertion order.
- Applied probabilistic analysis to safely skip over complex insertions with high resource costs.

Halma Game Tournament | Python | Github

- 1st place in class AI tournament with a self-adjusting depth algorithm that adapted in real time.
- Optimized alpha-beta pruning by shallow-sorting recursion order, reducing non-optimal evaluations.