

Gerald Todd

Software Engineer

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github.com/beingforthebenefit

Summary

Software engineer who builds AI systems people can trust with high-stakes work. Before software I taught university mathematics for four years, and I hold two master's degrees in math. I'm at my best turning a messy, important problem into something clear enough to ship and to explain.

Experience

Software Engineer III, Einstein Industries

Sep 2022 – present

Remote

- Designed and built, as the sole engineer, a multi-agent deliberation system for legal work. A chair agent assembles the question, stakes, values and required confidence into a brief for sandboxed models from several providers, merges their drafts, and repeats until the panel votes unanimously. Any agent can pause to ask the operator for more context.
- Co-built a FastMCP server whose tools gather a client's context from across the internal application suite and draft a working model of the finished product for human review. Measured throughput on that client work rose 10x.
- Replaced a 2012-era authentication system with AWS Cognito and Google sign-in across the application suite, partnering with the sysadmin.
- Led the team on a major release of the in-house product-creation software; built integration modules and abstract APIs moving data between internal and external REST services.

Full-Stack Developer, AdaptiveStack

Aug 2021 – Jul 2022

Remote. PHP development on a federal contract for the Department of Veterans Affairs.

- Built the portals veterans used to submit proof of COVID-19 vaccination or exemption, and the workflow supervisors used to approve or return each report.
- Led the application's security audit, which earned a three-year Authority to Operate, the longest in its eleven-year history.

Founder and Developer, iOSTheme.live

Nov 2020 – Jun 2021

Portland, OR

- Built a browser-based engine that generates custom iOS themes and installs them as configuration profiles, on a custom PHP framework.
- Formed an LLC, hired and trained a contract graphic designer, and ran SEO and ad campaigns. The code is now open source.

Full-Stack Developer, Scan123

Jul 2019 – Jun 2020

Gresham, OR

- Wrote and optimized PHP and SQL for a document-scanning product on a LEMP stack, working in Scrum.
- Served on the hiring committee for two developers and designed the coding challenges and interview questions.

Mathematics Instructor, University of Montana

Missoula, MT

Aug 2014 – Jun 2018

- Taught college algebra, applied calculus, probability and linear math, Calculus II and statistics to about 80 students a semester.
- Built interactive Mathematica lessons for a new touch-screen classroom.
- Twice won the College of Arts and Sciences award for the highest TA student evaluations.

Education

Master's, Mathematics: Combinatorics and Optimization, University of Montana 2016

Earned alongside the degree below.

Master's, Mathematics: Applied Mathematics and Analysis, University of Montana 2016

B.S., Mathematics, University of Alaska Anchorage 2012

Highest GPA among mathematics and computer science graduates.

Research and speaking

- Automorphism Groups and the Fixing Number of the Dowling Geometry (2016). Master's paper, advised by Jenny McNulty. Counts every symmetry of the Dowling geometry and finds its fixing number.
- "Breaking Bad Symmetries," Pacific Northwest Section of the Mathematical Association of America, annual meeting, Oregon State University, Corvallis, April 2016.
- Student reflection speech, University of Montana mathematics graduation, May 2016.

Skills

AI systems	Multi-agent orchestration, Model Context Protocol (FastMCP), LLM APIs across providers, Evaluation and consensus design
Languages	Python, TypeScript, JavaScript, PHP, SQL, HTML, CSS
Frameworks	React, Next.js, Node.js, Astro, Prisma
Infrastructure	AWS Cognito, Docker, Linux, nginx, PostgreSQL, MySQL, GitHub Actions
Mathematics	Combinatorics, Optimization, Matroid theory, Mathematica, MATLAB, R, LaTeX

Honors and certifications

- College of Arts and Sciences award for top TA evaluations (twice), University of Montana
- Highest GPA among mathematics and computer science graduates, University of Alaska Anchorage
- William Lowell Putnam Mathematical Competition: scored 2 of 120, above the national median of 0, Mathematical Association of America, 2012
- Certified ScrumMaster
- Tutor certification, College Reading and Learning Association
- Tutor certification, American Tutoring Association