

Pemberton Heath



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Summary

I solve complex business problems with technical solutions. I aim to build software with the full business context in mind to understand trade-offs and deliver the right solution for the moment.

My foundation spans **mathematics, medicine, and teaching** in addition to software development. This diverse background enables unique problem-solving approaches and exceptional stakeholder communication.

I approach development as **collaborative problem-solving**, with a focus on crafting maintainable solutions that enable business growth, mentoring team members, and driving architectural decisions.

Software Engineer (Full stack, backend focus)

Novi Connect
Larkspur, California (Remote)
April 2024 - Present
noviconnect.com

Developed and maintained Novi Connect's core platform, focusing on backend systems, database architecture, and cross-team collaboration to ensure high performance and scalability.

Key Responsibilities: - Polyglot development: Python/Django, Ruby/Rails, React/TypeScript - AWS infrastructure tooling: Lambda, S3, Aurora RDS with Celery task execution - Database architecture and performance optimization - Cross-team technical guidance and collaboration - Code review focusing on maintainability and readability

Leadership Highlights: - Stepped into technical lead role during critical client migration crisis - Advocated for technical debt prioritization with quantified business impact

Led critical database optimization initiative to resolve performance bottleneck threatening platform scalability.

- Identified and architected solution for a 180 GiB vetting results table causing 1.2+ day maintenance windows and preventing new retailer onboarding.
- Designed and implemented new table architecture with optimized indexing strategy, reducing query complexity from 9+ table joins to simple index lookups.
- Managed phased migration using feature flags to ensure zero-downtime deployment.

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- **Result:** Enabled platform to scale for enterprise retailers, reduced storage by ~50%, eliminated maintenance-related outages, and improved page load times from 60+ seconds to sub-10 seconds for critical vetting workflows.

Led my backend team to deliver a full stack solution to address our number one customer complaint about product usability.

- I advocated for and organized an in person working session where we white boarded three potential solutions and then selected the solution that balanced outcome and cost.
- I led the team in delivering the solution in two sprints. The solution led to reduced load on our database by allowing users to perform common operations in bulk while maintaining data integrity essential to the company's trust backed value proposition.

I identified a single incorrect assumption made in building the core platform service at Novi whose resolution led to a 50-75% speed increase and 50% memory reduction in our core service.

- I communicated the implications of the existing assumption to the product team, advocated for prioritization, and finally led and delivered a refactor resulting in a caching strategy unlocked by understanding the business requirements more clearly. This enhancement improved reduced engineering intervention for task failures from weekly to less than quarterly while lowering operational costs.

Improve internal tooling: I built an internal tool to expedite an administrative bottleneck for our operations team.

By finding the "good enough" solution and delivering it quickly, I was able to save the operations team hours of manual work each week. The solution eradicated a bottleneck in internal operations that allowed the rapid development of new policies, a core step in sales and new client onboarding. When delivering new outward facing features I find high yield ways to improve internal tooling where improvements would contribute to users working toward company OKRs.

Associate Software Developer

Relode

Nashville, TN (remote) August 2023 - April 2024

Full-stack development

Key Contributions: - Delivered production-ready generative AI features using React, C#/.NET, and Azure - Led research and implementation of OpenAI API integration - Enhanced search functionality with vector embeddings and text processing - Maintained comprehensive test coverage including unit and regression testing

Technical Growth: - Worked in complex React frontend architecture patterns - Worked in an application following Domain-Driven Design principles. I took an interest in this and gave a presentation on the framework to the product development organization. - Gained proficiency in .NET backend development and EF ORM - Developed expertise in AI/ML integration and vector search technologies

Software Developer in Training

Nashville Software School

Nashville, TN 2022 - 2023

Intensive, full-time, nine month software development bootcamp focusing on Java software engineering using AWS technologies. The program culminated in a web-based capstone project designed to emulate working on a real world team, using Agile values with the Scrum framework.

- Instruction included daily hands-on application of computer science concepts, including algorithms, data structures, and object oriented programming with Java via group and individual projects.
- I taught myself ReactJS for my final project, proving immensely helpful as my first job involved working with a very sophisticated and complex React code base
- I gained experience with various AWS services: AWS Lambda, Cloudwatch, DynamoDB were included in our program
- I personally explored and used AWS Amplify, AWS Cognito, and AWS Athena
- Solution Design: regular use of PlantUML to design new and document existing software.
- Practiced testing with the JUnit and Mockito testing frameworks.
- Implemented dependency injection with the Dagger framework.

Teaching and Coaching Experience

Artista Brazilian Jiu Jitsu, Nashville, TN | 2019 - 2023 - Head Coach and Instructor for the Adult Basics Program - Assistant Coach for the Kids Program

KIPP Academy, Harpeth Hall, Nashville, TN | 2019 - 2022 - Math Teacher (AP Statistics, AP Calculus) - Head JV soccer coach - Developed and taught January term class, *Med School 101*, to introduce students to medicine and healthcare careers

St. Andrew's School, Middletown, DE | 2012 - 2013, 2015 - 2017 - Math Teacher (AP Statistics, Precalculus) - English Teacher - Dorm Parent, Class Advisor - JV Head, Varsity Assistant Soccer Coach - JV Head Lacrosse Coach - JV Head, Varsity Assistant Basketball Coach

Thayer Academy, Braintree, MA | Harvard University School of Engineering and Applied Sciences, Cambridge, MA | 2013 - 2015 - TA and Grader for Probability and Statistics courses at SEAS; - Math Teacher (Calculus) at Thayer Academy

Core Competencies

Full-Stack Development: - **Backend:** Python/Django, Ruby/Rails, C#/.NET, RESTful APIs - **Database:** PostgreSQL design and optimization, complex query analysis - **Frontend:** React/TypeScript, JavaScript - **Infrastructure:** AWS (Lambda, S3, Aurora RDS), Azure, Docker

Business-Technical Bridge: - Translating business requirements into technical solutions - Risk assessment and priority-driven development - Stakeholder communication across technical levels - Agile development and sprint planning

Problem-Solving Approach: - Systems thinking and root cause analysis - Performance bottleneck identification - Code quality advocacy (maintainable, readable, testable) - Continuous improvement mindset

AI Development Tools Claude Code, Claude, ChatGPT, Cursor **Frameworks:** Django, Rails, .Net, React **Tooling & IDEs:** PyCharm, RubyMine, IntelliJ, VS Code, Cursor, Postman, Docker

Other Interests

When I'm not coding, I enjoy: - Brazilian Jiu Jitsu (brown belt, regular competitor, coach) - Triathlon (competed in college, now training for first 70.3) - Reading, especially literature and laymans math/science non fiction - Watching sports, especially college hoops (wahoowa!!)