

R Riley Holmes

Software Engineering Leader | Full-Stack Developer | Mathematical Systems Expert
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SUMMARY

Inventive and versatile enthusiast of math and software. Deep technical expertise and proven project management capabilities. Background spans military electronics, enterprise software development, and mathematical modeling. Advocate of simple solutions, declarative systems, and guaranteed reproducible code.

TECHNICAL SKILLS

Primary Technologies: Elixir/Erlang, Phoenix, Ecto, Idris2, CoQ, Nix

Additional Experience: LISP/Scheme, Java, C++, Python, JavaScript, React, PHP, SQL, Solidity, Motoko, Docker

Mathematical Foundations: Type theory and theorem provers, conceptual mathematics, algebraic data integration

EXPERIENCE

Technical Team Lead

Feb. 2024 – Present

OptiSwap, LLC.

Baltimore, MD

- Led development of 2 blockchain projects from proposal to deployment
- Demonstrated versatility with one project demanding rigid technical constraints, and another requiring innovative architectural decisions in an emerging design space
- Managed small team of 3 engineers and delivered both projects on schedule

Software Engineer

Aug. 2017 – Feb. 2024

Skayl, LLC.

Westminster, MD

- Pioneered applications of FACE (Future Airborne Capability Environment) standard data models to rapidly integrate and scale systems
- Designed and implemented code generation infrastructure to transform models into production-ready software components for mission-critical platforms
- Developed robust model editing and validation systems to ensure generated code met military/aviation compliance standards

Electronics Technician

Jan 2008 - Apr 2013

United States Coast Guard Command, Control, and Communications Engineering Center

Baltimore, MD

- Performed troubleshooting, PCB repair, and QA on communication and navigation gear, with a focus on Automated Test Equipment (ATE)
- Drafted official documentation including QA test procedures and circuit diagrams
- Performed on-site engineering upgrades for DHS infrastructure across the nation

EDUCATION

Emporia State University

Emporia, KS

MS, Mathematics

2020 - 2022

University of Maryland Baltimore County

Baltimore, MD

BS, Mathematics

2013 - 2016

PERSONAL PROJECTS

WizardWars.io

Featured game, Roguelike Celebration 2020

“Why does this game work so well? Multiplayer death match traditional roguelike seems impossible on paper”

Nix Book

In progress - I am passionate about bringing this technology to a popular audience.

Paradigm

A flexible tool for model-based code generation.