

PROFILE

I'm a software engineer interested primarily in systems programming: compilers, operating systems, distributed systems, databases, and cryptography. I'm also an avid traveler, backpacker, and cyclist.

PRIMARY SKILLS AND INTERESTS

- Rust, Python, C/C++
- GNU/Linux system administration
- Open source and free software movements

PROFESSIONAL EXPERIENCE

2015 — 2016 **Deep Information Sciences; Core Engineer**

Worked as a core engineer on an adaptive, highly parallel database engine operating under MySQL. Independently implemented a native partitioning handler to achieve feature parity with InnoDB. Identified a pair of internal performance optimizations and authored solutions for measurable gains. Smaller projects included a cross-platform system assessment tool leveraging Factor, a multi-function, full-stack benchmark, and authoring an internal knowledge base.

2013 — 2015 **Wayfair; Engineer III**

Worked in a cross-discipline engineering/DevOps role on a small team. Received promotions from Engineer I; on track to Senior Engineer. Notable projects include architecting a scalable StatsD/Graphite cluster, automating server provisioning via configuration management (Puppet), co-authoring a multi-threaded, lock-free StatsD replacement, authoring a PHP static-analysis tool wrapping HHVM (bash), and implementing a compressed DAWG index of 1M+ metrics.

2011 — 2013 **athenahealth; Software Developer**

Led development on an insurance claim resolution tool involving distributed processing of large datasets (Perl, Oracle SQL). Independently developed an internal source code search and index web application that was adopted by other developers.

2008 — 2011 **Indiana Wesleyan University; Web Programmer**

Developed secure web forms within the C# .NET framework. Worked on a small team to completely rebuild the multiple internal and external university websites. In Fall 2010, independently developed a *Student Jobs* web application complete with MSSQL database, indexed full text search, in-app job application support, and template-based content administration.

2010 — 2011 **Indego Africa; IT and Website Development Internship**

Worked remotely to develop and maintain the Indego Africa website. Redesigned the site using Joomla CMS. Wrote a tool to manage the organization of transactions across Google Checkout, Shopify, and Salesforce systems. Authored a custom PHP web application for sales data management. Received promotion from volunteer internship to part-time VP role.

2010 **Museum of Science, Boston; Information Systems Internship**

Worked with the software team to maintain the museum's public website. Working in collaboration with a renewable energy research project from MIT, independently developed a pair of C# desktop applications that gathered, parsed, formatted, and distributed XML-coded data collected by the museum's five wind turbines.

INDEPENDENT PROJECTS

- **mezzo**: Minimal, from scratch x86_64 operating written in Rust
- **raft.rs**: Implementation of the Raft consensus algorithm in Rust
- **forecast**: Menubar weather utility for macOS using the DarkSky API written in Swift
- **eudypula challenges**: Series of tasks related to Linux kernel, kernel module, and device driver development
- **cryptopals challenges**: Series of challenges covering fundamental and advanced cryptography
- **seaways**: Bare-bones BFS website asset crawler written in Ruby and rspec
- **open source contributions**: Contributions to rustc, coreutils, cmake-rs, among others

EDUCATION

2016 **Recurse Center**

Participated in three month programming sabbatical

2007 — 2011 **Indiana Wesleyan University**

Mathematics, Computer Software Engineering