

eric fritz (I build software)

(608) 774-1120 · eric@eric-fritz.com · additional resume details at eric-fritz.com

Staff software engineer with over 8 years of professional experience and over 10 years of experience researching and creating developer tools. Focusing on compounding the ability of fellow engineers.

core competencies

Go · TypeScript · Python · Postgres · Containerization (Docker/K8s+Firecracker) · Observability · Technical writing · Performance optimization (algorithms, databases) · Org-wide standards

work history

2019 - Now

Sourcegraph

Staff Software Engineer, Language Platform Team Lead

Go, TypeScript, Postgres, LLMs

Sourcegraph is a fast-growing developer tools company with a mixture of on-prem and SaaS clients for some of the largest technology companies in the world. Among my contributions:

- Designed and implemented the Precise Code Intelligence Platform that produces and persists analysis of source code to power features such as cross-repository/global code navigation. More recently, we've integrated this data lake into our AI Coding assistant, Cody, to provide additional context when answering questions about a code base.
- Scaled and optimized our data layer as the resident Postgres expert. Our SaaS database stores 15TB of fresh analysis data at any given point in time, and required the development of new bulk write techniques and novel relational schemas.
- Provided mentorship, project management, and technical guidance for half a dozen engineers as an "Uber Tech Lead". Ownership of infrastructure projects originally written within the Language Platform Team have transitioned to dedicated teams, including executors (which safely invoke untrusted code to produce code analysis results), as well as our database schema migration, schema drift detection, and instance upgrade infrastructure (self-serve upgrades prior to this work would more often than not fail and corrupt data).

2015 - 2019

Mitel

Senior Software Engineer, Labs Team

Go, Python, Distributed systems

I was the primary designer of *Nighthawk*, an IFTTT-like engine and the surrounding ecosystem to support integration of internal and external services, and *Kestrel*, Mitel's IoT infrastructure and collaboration strategy. Before that, I worked on *Summit*, a CPaaS system that allows users to build voice and SMS applications with Lua code that runs in a containerized sandbox.

education

2018

Ph.D. Engineering, Computer Science

University of Wisconsin - Milwaukee

Milwaukee, WI

'Waddle - Always-Canonical Intermediate Representation': an optimizing compiler and a supporting set of algorithms whose internal representation never *goes stale*. Local updates to internal structures reduces compilation time while yielding the same output.

publications

Author's versions and articles deep-diving into my current work can be found on my website.

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| 2018 | Waddle - Always-Canonical Intermediate Representation | Ph.D. Dissertation |
| 2018 | Maintaining Canonical Form After Edge Deletion | ICOOOLPS |
| 2017 | Charon: The Design of a Limiting Microservice | Whitepaper, Mitel |
| 2017 | Typing and Semantics of Asynchronous Arrows in JavaScript | The Science of Computer Programming |
| 2016 | Arrows in Commercial Web Applications | HotWeb |
| 2015 | Type Inference of Asynchronous Arrows in JavaScript | REBLS |