

James Larisch

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Software engineer and web security researcher with over 6 years of experience designing and implementing distributed systems.

RELEVANT WORK EXPERIENCE

Cloudflare

Research Engineer

Remote

February 2024 – Present

- Continued building new DNS system in Go.

Cloudflare

Research Engineer Intern

Remote

June 2021 – August 2022

- Built new DNS system in Go. Details to come in upcoming paper.

Sonian (now Barracuda Networks)

Software Engineer Co-op

Waltham, MA

January 2016 – June 2016

- Built the company's first request tracing infrastructure using Clojure.

Gem.co (now Blockdaemon)

Software Engineer Co-op

Los Angeles, CA

January 2015 – June 2015

- Built new webhook product in which Bitcoin blockchain events triggered customer HTTP endpoints.
- Forked the Toshi Bitcoin node to send blockchain metadata to the company's API faster than third-party APIs.

HubSpot

Software Engineer Co-op

Cambridge, MA

January 2014 – July 2014

- Converted bloated Hadoop event processing pipeline (60–90m) into Kafka pipeline (5–15s).
- Built new traffic simulation tool which prevented major analytics calculation bugs before production deployment.

EDUCATION

Harvard University

PhD, Computer Science

Cambridge, MA

September 2017 – December 2023

Harvard University

MS, Computer Science

Cambridge, MA

September 2017 – May 2020

Northeastern University

BS, Computer Science

Boston, MA

September 2012 – May 2017

TECHNICAL SKILLS

Languages: Go, Ruby, Rust, C, C++, JavaScript, Java, SQL, Clojure, Haskell, Racket, Prolog, OCaml

Technologies: Kafka, Hadoop, Node, Ruby-on-Rails, libuv, Docker, git, Kubernetes, Linux, bash, zsh, AWS

SELECTED PROJECTS

Hestia Programming Language | hestia-lang.org

Present

- My zero-dependency, dynamically-typed, functional scripting language written in Rust.

Juice: A New, Stateful Serverless Architecture | [Code & paper available upon request](#)

2018 – Present

- Designed a new serverless architecture that snapshots/restores function memory pages between requests.
- Prototype (10K lines of Go/C) uses modified Lua runtime & Linux kernel patch for fast incremental snapshots.

Catalyst-Chromium | github.com/semaj/catalyst-chromium/tree/catalyst-experimental

2018 – 2019

- Added new, fully-functional UDP socket primitive to the JavaScript DOM in Chromium; secured by DTLS.

SELECTED FIRST-AUTHOR PUBLICATIONS

CRLite: A Scalable System for Pushing All TLS Revocations to All Browsers

IEEE Symposium on Security & Privacy (Oakland)

2017

- Compresses over 10 million certificates' revocation status into 10MB using a bloom filter cascade.
- Currently deployed in Mozilla Firefox (Nightly).