Lennart Rudolph https://lennart.page

Contact Information

lrudolph (AT) hmc (DOT) edu

Education

Georgia Institute of Technology, Atlanta, GA **Jan. 2017 - May 2019**
M.S. Computer Science

Harvey Mudd College, Claremont, CA **Sept. 2012 - May 2016**
B.S. Physics

- Major Concentration in Physics with Computers
- Senior Capstone: *Atomistic Simulations of White Dwarf Dynamics (LLNL)*

Skills

Go, Python, SQL, Java, bash, git
Terraform, Docker, Kubernetes, Helm, Puppet
Apache Kafka, Apache Flink, Amazon Web Services
Bazel, gRPC, Protobuf, Temporal, Open Policy Agent
Prometheus, Grafana

Work Experience

Principal Software Engineer (VideoAmp) **Mar. 2022 - present**

As a member of the Central Services team at VideoAmp, my role involves developing core gRPC APIs in Go. I am involved in enhancing our Identity and Access Management systems and resource-sharing APIs. My responsibilities also include modernizing our event-driven architecture (EDA) and establishing developer patterns for projects leveraging EDA. My cross-domain role also involves provisioning new infrastructure using Terraform, as well as writing Open Policy Agent policies in Rego. Additionally, I design, develop, and maintain Temporal workflows to execute platform business logic and ensure data consistency.

Technologies used: Go, Bazel, Protocol Buffers, gRPC, PostgreSQL, Apache Kafka, Docker, Kubernetes, Helm, AWS, Terraform, Temporal, Open Policy Agent, CloudEvents

Software Engineer (Yelp) **Oct. 2019 - Mar. 2022**

As a member of the Streaming Applications team at Yelp, I worked on maintaining and improving the data streaming infrastructure and interfaces used by Yelp's Kafka-based data pipeline ecosystem, which ingests tens of billions of messages each day. I designed a cost-reduction system for deprecating unused Avro schemas and Kafka topics. I also participated in the on-call rotation as the first-line incident responder, responsible for the full fleet of production Kafka clusters, logging infrastructure, and stream processing infrastructure. Additionally, I contributed to the architecture and development of a custom Kafka Kubernetes operator, as well as the migration of Kafka clusters from EC2 to a k8s-based internal compute platform.

Technologies used: Apache Kafka, Apache Flink, Apache Beam, Python, Go, Java, Scala, Docker, Kubernetes, AWS, Terraform, Puppet, bash, Prometheus, Thanos, Grafana, SignalFx, Splunk

Back-End Developer (DailyNerve) **May 2016 - Oct. 2019**

I wrote and maintained code, tests, and documentation for BigNerve's DailyNerve back-end web API. I trained new back-end team members and led the development of new API features. I rearchitected and reimplemented the API as a platform-agnostic, containerized, microservice-based system.

Technologies used: Go, SQL, bash, AWS, Google Cloud Platform, Elasticsearch, Docker

Misc. Project Experience

Atomistic Simulations of White Dwarf Dynamics (LLNL) **Sept. 2015 - May 2016**

Worked on a white dwarf project for the Lawrence Livermore National Laboratory's (LLNL) High Performance Computing Innovation Center as a member of a joint computer science-physics clinic team. Ran molecular dynamics simulations on the Vulcan Blue Gene Q supercomputer using LLNL's dynamic domain decomposition multi-physics particle dynamics code (ddcMD).

Technologies used: C, bash

Wormhole Simulation (HMC) **Apr. 2015 - May 2015**

Used Mathematica, concepts from general relativity, and an approach by Kip Thorne et al. to implement a ray-traced interpolation map for the light from a wormhole (see GitHub)

Technical Writing

Kafka on Kubernetes at Yelp **Dec. 2021, Mar. 2022**

Wrote a series of engineering blog posts about Yelp's new Kubernetes-based Kafka deployment model.
https://engineeringblog.yelp.com/2021/12/kafka-on-paasta-part-one.html
https://engineeringblog.yelp.com/2022/03/kafka-on-paasta-part-two.html