Karthik Kumar

Senior Software Engineer at LightStep

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Work experience

Senior Software Engineer   Sep '18 -
Lightstep in San Francisco, CA

- Built a **system metrics and logs analysis** product for **latency and error root-cause analysis**
- Core contributor to a **industry-first product** that provided **robust analysis** of large collections of traces (**blog**)
  - The feature allowed **complex filtering and grouping** of **large scale distributed trace data** to help users diagnose issues with their system
  - As part of this project, designed and migrated a core monolithic service into a **distributed leader-worker model** that **horizontally scales** to meet demand
- Developed a product to **visualize system architecture** as a **nodes & edges diagram** derived from distributed trace data (**blog**)
- Built a service to manage client-specific data retention settings and migrated critical storage systems to this new flow **without downtime or errors**
- Worked on a Correlations feature which **automatically identifies system attributes** that are more strongly associated with **high latency**
- Led a project to integrate with other open-source tracing libraries (Jaeger, Zipkin) to **improve data ingestion** flexibility and capability

Senior Software Engineer, Tech Lead   Jan '16 - Sep '18
Rally Health in San Francisco, CA

- Led a team of **six engineers** building features for Rally Engage. A consumer product that **promotes healthy habits** through rewards & incentives
  - Built a **robust recommendation system** to suggest relevant activities based on a user's health goals and habits. The system led to **increased engagement** and **participation** in the recommended activities
  - Architected and implemented **a widely-used system for translating strings** on-demand based on a user's locale
  - Migrated a legacy, monolithic application into several scalable, independently deployable services. These microservices had **lower latency**, **higher test coverage** and **better error handling** (**blog**)
- Member of Eng. Tech Staff, serving as a **technical leader** on many large initiatives
  - Led a "Night's Watch" team of **ten engineers** from many teams on a **software optimization** project. Found, triaged and fixed several performance bottlenecks and **successfully scaled services** to meet increased demand on Jan 1
  - Evaluated and prototyped several Distributed Tracing solutions and **presented proposal to CTO and senior leaders**

Software Engineer   Jun '13 - Dec '15
Opower (acq. by Oracle) in Arlington, VA

- Core contributor to a **data integration platform** for ingesting **100 billion utility data points/year** from over 100+ unique clients (**blog**)
  - Migrated a legacy data import framework into a batched process, which reduced data import time from **several hours to a few minutes**
  - Developed several complex data validation techniques, **improving data quality and accuracy** for downstream systems
  - Built tools to **visualize ETL process** and surface data issues to external clients, which helped identify and **fix data issues sooner**

Summary

Hi, I'm Karthik. I'm building observability software at Lightstep. I'm passionate about software performance and reliability. I have over 7 years of experience working on distributed systems. I have a strong reputation for leading complex projects and reliably delivering results.

I'm always looking for opportunities to grow my skills, work with interesting people on challenging problems and have a positive impact on my surroundings.

Education

M.S. Computer Science

Georgia Tech, Artificial Intelligence & Machine Learning (OMSCS)

B.S. Computer Science, Honors

Virginia Tech, Minor in Math

Summa Cum Laude

Skills

Technical: distributed systems, API design, observability, back-end development, design patterns, monitoring, quality & testing, debugging, code stewardship

Soft: written and verbal communication, code reviews, documentation, giving/getting feedback, trust building, empathy, teamwork

Software: Go, SQL, Kubernetes, GCP, Java, Python, Docker, MongoDB, Elasticsearch, Spring, ReactJS, Scala, Android, Play Framework, Django, OpenTracing