



Karthik Kumar Viswanathan

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Cisco

Engineering Leader 2022 - 2023

Joined the CX Cloud Org to build a Massive Data Platform to bring our customers self-service ML/AI capabilities. I was responsible for the Technical Ownership of the platform, leading and executing with 20 Engineers across 3 Groups and interacting with 3 Vendors.

- Delivered Specifications for ML Ops Frameworks and ML APIs for Multi-tenant Multi-cloud Inference Servers. Focus is on Format/Framework Interoperability among Implementations, Feature Extraction and On-the-fly I/O encoding.
- Bootstrapped the Product Recommendation Engine with a team of 6 Engineers. Worked with multiple partner teams to enable Broad Adoption. Directly responsible for 25% increased TCV in multiple segments.
- Responsible for Software and Infrastructure for Training, Tuning and Quantizing Parameters for Large Language Models. Focus was on measuring on Costs, Cloud Provider Comparisons and Accuracy. Security.

PencilData

Director of Engineering 2019 - 2021

Responsible for Product and Infrastructure. Led a team of 15 Engineers directly and with Vendors (35+ Vendor Engineers).

- Involved in Onboarding and Documentation for all new team members. Wrote extensive design documents, drove a transparent process and set standards.
- Responsible for bringing in Customers and Revenue through the Products.
- Delivered a Distributed Marketplace for NFTs. It allowed roll-ups (L1 or L2 rollup), fully token-gated storage on IPFS as well as key recovery from various social media accounts.

Zenefits

Lead Software Engineer 2017 - 2018

Core Benefits and Infrastructure Work. Led a team of 3 Software Engineers.

- Worked on reducing the number of Django apps that were loaded per process, enabling us to load them as smaller, observable Micro-Services.

- Work on Re-Architecture and reducing Technical Debt. Focussing on Concern Separation and Data Quality. Own the Core Benefits, Life and Disability Product Lines with a focus on Architecture.

Walmart Labs

Site Reliability Engineer (Lead) 2015 - 2017

Infrastructure Reliability, Security, Analytics. Led a Systems Team of 15 Engineers.

- Architected and Implemented Walku - our own Inventory and Metrics Telemetry System. It reported on Storage, Processor, Network and Memory utilization and error rates. It was written in Python, Flask, Celery, Bash, Redis, Cassandra, AngularJS and HighCharts.
- Metrics Trending Dashboard. It scraped OPS, RUM and related metrics to automate if flows were trending up, down or following. Written in Python, Flask and Numpy.
- Modernized the Remedy 7 CRQ Dashboard. Unified the reporting. Added features. Migrated it to be API only. Written in Java, Jersey and Spring 3.

Freshworks

Technical Architect 2014 - 2015

Architected an Enterprise SaaS Product. Managed a Systems Team of 4 Engineers.

- Designed and Implemented a Serverless λ Enterprise Product. Wrote the initial code and mentoring the team on Scalability, Multi-tenancy, Security and Code Quality aspects when maintaining the Product. Written in Java, JRuby and Docker. Onboarded our first customers with our Ruby based SDK.

Bharti Softbank

Principal Software Engineer 2013

Architected and Implemented the core Platform. Built the Backend and Infrastructure teams. Managed 2 Engineers.

- Designed systems and processes to scale every bit of Infrastructure with no single points of failure.
- Designed, Implemented and Shipped the core platform, messaging and analytics engine. In Java, HBase, HDFS and Hadoop.

Zynga

Senior Software Engineer, Mobile 2011 - 2013

Developed and Maintained Systems, Made Games for Web and Mobile across Zynga. Managed 6

Interns and 2 Engineers.

- Designed and Implemented TurnTable - synchronous game and presence server based on WebSockets. Demonstrated Crazy Pool with this framework. With a team of 4 Engineers. compatibility on IE 6-8 with a polyfill written with a JavaScript-ActionScript Bridge.
- Migrated Treasure Isle from FBML to HTML/XFBML for Business Continuity. Resulted in a multi-million dollar revenue game sustaining for another year. Wrote a flexible Tag Library in PHP. Performed code maintenance and bug fixes.
- Led the Implementation for Mobile 3D Pinball, written in Flash and Away3D. We Optimized it so that the Physics Engine could run at 250 frames a second on target mobile devices. With a team of 2 Engineers.

Amazon

Software Development Engineer, Kindle, Topaz Engineering 2010 - 2011

Enhanced and Maintained a Distributed Conversion Pipeline for e-books sold on Amazon.com.

- Implemented a new distributed pipeline for Japanese and German books. Owned the build and deployment of this pipeline. It was written in C++, Java, Bash and some Perl.
- Topaz Pipeline features, performance and yield. Created various imaging algorithms in the process. Used C++ (Boost Lambda/Threads, Adobe PDF SDK), Java, Perl and MySQL.
- Did Topaz Editor releases for various operators. Automated the Installation process. Worked with various stakeholders to solve a variety of end-user deployment issues.

NetApp

Member Technical Staff 2, Advanced Technology Group 2008 - 2010

Was actively researching, implementing and benchmarking NetApp's upcoming OS products.

- Prototyped an idea for novel On-Disk NVLogging for 2x I/O performance.
- Wrote a WAFL FUSE driver for FS code testing. In C and x86 Assembly.
- Ported over FreeBSD SCSI drivers and bootstrapped our OS in VMware ESX.
- Wrote an NVRAM device driver for VMware ESX 4's PCI Passthrough for 5x I/O performance.
- Found and reported bugs in VMware ESX 4's PCI implementation.

Projects

- Wrote GCC's Function Specific Optimization - Shipped in GCC version 4.4, which allows per function Optimization. My code for Automatic dispatch and Function Cloning went into Intel's Cilkplus fork, now available as GCC's Function Multi-Versioning.
- Wrote patches to Hadoop as part of an effort to make Hadoop work on Macs. See HADOOP-9635.
- Open-source contributions to PDCurses, Allegro, Webkit, Colfer, GMQTT and more.

Skills

- x86 Assembly, C, C++, CUDA, Go. Some Rust
- Java and Frameworks (Dropwizard, Flyway, Hadoop, JPA, SpringBoot)
- JavaScript and Frameworks (RedwoodJS) and Templates (Jinja, Angular, React)
- Python and Frameworks (FastAPI, Django, Torch, Fab, Locust, Celery, Pandas)
- Cloud (Openshift, AWS, GCP, Azure, OpenStack), PaaS (Google App Engine, Heroku, Fly.io)
- Relational Databases (MySQL, Postgres, Oracle, DB2, SQLite and Derby), NoSQL Databases (Redis, Memcache, Cassandra, RocksDB)
- Web (HTML 5, CSS), Balsamiq Mockups, GIMP
- Wordpress, Hugo (Markdown)

Talks and Publications

- 'Data Design for Scaling' at Barcamp Bangalore 2015
- 'IoT - Real-Time Information from the Real-World' at BHive, Bangalore 2015
- 'Building Mobile Social Games' at Game Developers Conference 2012

Other Achievements

- Runner-Up in Cisco Hackathon 2022 (Technology Track), Cisco-wide Competition (Team of Six)
- Consistently got incentives or level-ups every Quarter in Zynga. Won an Emerging Star award.
- Runner-Up in Srujan 2010 (Technology Track), all Amazon India Competition (Team of One)
- IBM Certified Associate Developer (WebSphere Studio 5.0) and Database Associate (DB2 9)