

Ramakrishna Nadella

Senior Software Engineer | New York, NY
ram.nadella@live.com | (415) 568-5031 | ToughType.com

A full-stack software engineer excelling at the intersection of infrastructure and product.

EXPERIENCE

Etsy *Senior Software Engineer*

April 2014 - Present

Engineer on the Core Platform Team. Working on the API (development, adoption & scaling) and finished a business critical financial data migration.

Fanout manager – distributed counting of sub-requests made by a parent API request to ensure fair use of the API cluster. Worked with Operations engineers to add an http caching tier in-front of the API cluster. Cache TTL Simulation – worked with data science to simulate cache TTL / cache hit rates using log data in our big data stack.

Cache Invalidation Prototype – Tech lead on the team that built the cache invalidation prototype for the internal API. Built a cache (nginx + lua) that mapped cached objects to database rows based on a header in the response (populated by a hook in the ORM). An “invalidator” (kafka consumer, golang) then notified the cache of changes to db rows by consuming a pre-existing kafka topic that is populated with MySQL binlogs.

Sharding transaction data – moved nearly a billion rows of financial data from Etsy’s old Postgres database to the new sharded MySQL architecture without any downtime. Porting schemas & indexes, backfill 1 billion rows of data (without affecting slave lag on live DBs in a master-master setup) and verifying the data using Etsy’s “worker” cluster and ELK (ElasticSearch, Logstash, Kibana) stack.

Day-to-day debugging and occasional firefighting involved in working on an infrastructure team at a large company’s self-hosted infrastructure. Engage in a culture that encourages blameless postmortems.

CloudFlare *Full-Stack Web Developer*

August 2011 - April 2014

Early engineer at CloudFlare. Had the opportunity to work on a myriad of projects at all levels of the stack.

CloudFlare Apps – worked with app partners to integrate with CloudFlare and eventually create a self-service framework for app partners, which was later adopted for launching internal services. Hosting Partner Portal – built a dashboard for hosting partners to manage their customer websites, which served as a testing ground for the new single page app architecture.

Worked on building out CloudFlare's REST API and the next iteration of CloudFlare's dashboard with the goal of moving to an API first design with a Backbone/Marionette single page app powering the dashboard.

Wrote Postgres database schemas, query optimizations/index additions, and stored procedures (pl/pgsql). Error tracking & metrics collection – set up Sentry for error tracking, and documented & evangelized backend metrics tracking.

EDUCATION

M.S., Computer Science San Francisco State University
2008 - 2011

On-Campus Jobs & Internship

Academic Technology, SFSU – worked on the campus Learning Management System (LMS). Office of the Information Security Officer (ISO), SFSU – surveyed campus IT groups and researched solutions to support the ISO's effort to improve the state of business continuity / disaster recovery plan. OPSWAT (a security posture assessment SDK vendor) – gained experience with concurrent programming while working on the Java / Swing UI and dealing with Swing Workers and the Event Dispatch Thread.

B.Tech, Electronics & Communications Jaypee Institute of Information Technology (India)
2003 - 2007

PROJECTS

I work on side projects as a way to explore technologies that interest me and to bring my ideas to life. A few of the more recent ones are listed below; you can see more at toughtype.com/projects

sHAR: Share HAR files. Like the Network panel of Chrome Dev Tools, but this is an effort to turn it into a web app. This way, you can share how resources were loaded locally to help with debugging. Google App Engine / Google Cloud Storage.

Trendsy: An iOS app that shows trending items from Etsy. Wanted to get a feel for the experience of building a mobile app using Swift.

fstream: A near real-time stream of tweets with the f-word. Twitter streaming API, node.js, socket.io

TALKS

- Teach Us Something Technical Meetup, New York – gave a talk about Flame Graphs and how to generate a Flame Graph of a running Go program. Slides – toughtype.com/tpt-meetup/
- nginx Conference, Austin – scheduled to speak about exploring cache invalidation options for nginx in September 2016. [Link to talk description.](#)