

# Vijay Arunkumar

Palo Alto, CA

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<https://thekumar.github.io>

## AI

VertexAI, OpenAI, Langchain, RAG, Knowledge Graphs

## Web Front-end

React, Redux, Typescript, Javascript, GraphQL, HTML5, Google Closure, Service Workers, CSS.

## Web Back-end

Node.js, Express, Apollo GraphQL, Prisma ORM, Java SpringBoot, GoMux, GORM, SQL (MySQL/Postgres), NoSQL (HBase/DynamoDB/Mongo).

## Cloud & Distributed Systems

Vercel, Firebase, AWS, GCP, Docker, Kubernetes, Terraform, REST, gRPC, Operational Transforms, CRDTs.

## Areas of Expertise

Service Oriented Architecture, SQL & NoSQL, LLMs, Deep Learning and Neural Nets, Map Reduce, Search, Recommender Systems and Data Mining.

## Languages

Java, Go, Typescript, Javascript, Objective-C, Swift, C++, Python

## Published iOS Apps



Fotoyaki  
ftyki.com



ZDO  
zdoapp.com

## Profile

Software Engineering Lead specializing in full-stack product development and scaling systems from zero to 10^n. Curious about the cutting edge. Obsessed about keeping it simple.

## Experience

### Founder, Yaki, Inc.

Palo Alto, CA 04/23-present

Iterating towards product market fit with LLMs.

- [Datayaki.com](#), a privacy-first data analytics and sharing platform for numerical analysis using LLMs.
- [Sailfin.ai](#), a financial tool for analyzing earnings statements and news about public companies.
- Open sourced [@yaki-inc/crypto](#) type safe encryption library.
- Invented CAKE, an end-to-end encrypted auth-n/auth-z protocol and building [E2E2.org](#).

### Principal Engineer, Skiff

New York, NY / San Francisco, CA 04/22-01/23

Oversaw architectural decisions in addition to full-stack feature development.

- Led effort to improve our service's reliability and performance to handle 10x growth in users.
  - Improved GraphQL API p95 by 20x response time from 1.2s to 65ms.
  - Simplified our schema and queries to improve RDS Postgres instance's CPU perf by ~100x.
- Designed and implemented web3 wallet-based addressing for Skiff Mail and integrated with ENS.
- Designed and implemented in-house drip-campaign mailer to mitigate cost and privacy concerns.
- Consolidated redundant GraphQL client libraries into a single shared library to streamline front-end app development between our Pages, Mail, and Calendar offerings.

### Software Development Engineer, AWS Billing, amazon

New York, NY 04/20-4/22

Technical Member of Enterprise Support Billing team within the AWS Commerce Platform group.

- Designed an automated customer onboarding workflow employing SNS, CloudTrail, and AWS Lambda to cut lead time from ~2 weeks to ~2 hours.
- Improved speed, accuracy, and reliability of our monthly bill-runs that relied on loading and processing large CSV files stored on S3 through better parallelization and chunked processing.
- Worked with PMs, TAMs, and Customers on resolving customer billing issues and inquiries.
- Liaised with cleared engineers in our SCIFs to bring about process improvements around code deployments and remote debugging of billing issues for customers on GovCloud.
- Implemented features in our billing dashboard built atop Airwolf, Amazon's version of React/Redux.

### Senior Software Engineer, Dropbox

New York, NY 07/18-02/20

As a full-stack engineer on Showcase team, was in charge of feature development:

- designed and implemented layout editor and widgets using React.
- improved code reliability through comprehensive unit and integration test coverage.

As an engineer on the Paper Platform team, was in charge of improving DevEx and platform features.

- Delivered HIPAA Compliance for Paper. Worked closely with legal and PM to get this done.
- Analyzed and streamlined our Bazel dependency graph to vastly improve build and CI/CD times.
- Further improved devbox memory footprint by implementing a shared service sandbox and a sidecar proxy written in GoLang to aid with service discovery and to intelligently proxy calls.

### Creator / Engineer, Mix.byCollab

New York, NY 01/18-07/18

Solo effort. Built a web based video editor that employed Operational Transformations to allow multiple users to simultaneously edit videos together.

- MySQL & MongoDB, Go, gRPC, Node.js, SpringMVC and Envoy Proxy on the backend.
- React + Redux, Typescript, WebGL, FFMpegJs, Service Workers & WebSockets on the frontend.
- K8s and Docker on GCP, with Bazel / Bitbucket pipelines for build & deploy.

### Senior Software Engineer, Google

New York, NY 01/16-12/17

Senior member of the Docs Comments (Docos) team.

- Implemented the "Instant Mentions" feature across all platforms (Javascript, Android, and iOS).
- Was the primary POC for our iOS code for reviewing external teams' features, designs, and code.
- Designed and implemented "Action Items" for iOS (Objective-C and Javascript).
- Delivered the design and LOE for syncing Docs Action Items with Calendar Reminders.
- Led the team to improve Comments UI performance resulting in > 98% savings in render time.
  - Designed and implemented tiled layout and rendering, along with DOM simplification.
- Led security reviews for projects and features, including "Copy Comments".
- Successfully dotted-line managed and mentored our team's Eng Resident into a full-time role.

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## Data Science Consultant, [DeepDyve](#)

Redwood City, CA 06/15-12/15

- Built the “Others also viewed” and “More from the authors” search recommendation features to rank related articles based on link analysis of sequential views, and shared authors.
- Designed and Implemented the algorithms using Hadoop MR and cookie based view tracking.

## Senior Web Engineer, [Shutterfly](#)

Redwood City, CA 06/13-12/15

As part of the Shared Services Team, rearchitected our monolithic codebase to be more horizontally scalable using RESTful microservices built atop Spring Boot, and Netflix’s OSS stack.

- Designed and implemented Single Sign On and OAuth for API access between our brands.
- Designed and implemented the Store Catalog and Product Pricing services using Spring Boot.
- Led the effort around secure design practices and introduced STRIDE modeling to Eng teams.

## Engineer, [Bread Labs](#)

San Francisco, CA 03/12-05/13

As a core member of a four-person engineering team, I was responsible for designing and implementing our Ad Platform’s backend APIs & services using Groovy & Grails on Heroku.

- Designed and implemented our product subscription feature, with support for pro-rated subscriptions, invoicing, refunds, discounts, and payment processing using Braintree Payments.
- Built our geo-targeting feature using MaxMind, and the APIs needed for location search.
- Other features I built include: Campaign Pacing, Domain and Path based URL blacklists, Support for selecting ads/campaigns based on Facebook likes, and Klout scores.

## Software Engineer, [mobclix](#)

Palo Alto, CA 01/11-03/12

- Designed and implemented algorithms for optimizing ad network allocations under each publisher, and for pacing the delivery of each ad campaign.
- Built the REST API third-party publishers / advertisers used to configure their ads on our exchange.
- Maintained our PHP based developer dashboard, and liaised with dev teams at third-party ad networks to help them integrate with our platform.

## Software Development Engineer II, [Microsoft](#)

Mountain View, CA 05/07-05/10

## Senior Software Engineer, [Tellme.](#)

Mountain View, CA 09/06-05/07

- Led the initial prototype development of Speech Experience on Windows Phone 7, and designed and developed UI/UX flows and speech grammars for the WP7 Speech UX.
- Worked on a Voice + Visual application platform for developing voice applications written in XML that worked across Windows Mobile, Blackberry, and J2ME phones on top of which “Tellme for mobile. Also involved in defining the spec for MobileML, the language used to author apps.
- Implemented the platform for Blackberry, Sprint Instinct, and other J2ME phones and led development of layout and rendering on Windows Mobile 6.5.

## Software Development Engineer, [eBay](#)

San Jose, CA 02/05-09/06

## Senior Software Engineer, [Accenture @ eBay](#)

San Jose, CA 11/03-07/04

- As member of the K2 Search team, built a map-reduce based site layout analyzer on top of Nutch and Hadoop to detect and filter out redundant styling elements and other unimportant content. Also implemented heuristic site specific content scrapers using XPATH.
- As member of Stores team, also implemented features such as “Related Searches”, and “Cross Seller Merchandizing” and moved the Stores codebase from C++/IIS based v2 architecture to Java/WebSphere based v3 architecture.

## Computer Scientist, [Adobe](#) (Flash Player team)

San Francisco, CA 05/10-01/11

## Software Consultant, [Spherion Consulting @ AOL](#)

Dulles, VA 08/04-12/04

## Java Developer, [Tek Systems @ Genentech](#)

Vacaville, CA 03/02-07/03

## Software Development Intern, [Microsoft](#)

Redmond, WA 06/01-09/01

## Software Development Intern, [Cisco Systems](#)

San Jose, CA 06/00-01/01

## Education

University of California, Davis, CA

B.S. Computer Engineering, 2002

Coursera Specializations: Stanford MMDS (w/ distinction), Stanford ML, DeepLearning.ai DL