

## Summary

Senior software engineer with 11+ years professional experience designing, building, and operating globally distributed, high throughput web services. Recently led full-stack development of a direct ordering vaccine platform from the ground up utilizing Java web services deployed on AWS EKS, React-based frontend, and infrastructure provisioned with Terraform. Experienced in building tooling, infrastructure, and platforms that drive fast, scalable, and safe delivery of full-stack solutions. Confident collaborating with cross functional partners in planning and providing mentorship and guidance to fellow engineers.

**Languages:** Java, Kotlin, Typescript, Python, Bash

**AWS Services:** DynamoDB, S3, EC2, EKS, CloudWatch, Lambda, API Gateway, CloudFront, SQS

**Other Technologies:** Kubernetes, Terraform, PostgreSQL, Cassandra, Kafka, Flink, GitHub Actions

## Work Experience

### Moderna – Seattle, WA

*Senior Software Development Engineer – May 2023 - present*

- Led system design and implementation for an 11-engineer team transitioning from vendor-built direct vaccine ordering system to in house solution saving \$1M/year.
- Architected new microservice infrastructure from the ground up utilizing Java, Spring Boot, AWS EKS, DynamoDB, SQS.
- Collaborated with cross functional partners to design for business objectives and set scope to achieve delivery within timelines driven by business needs and regulatory approval dates.
- Developed CI/CD pipelines utilizing GitHub Actions, Helm, and Terraform, enabling automated testing and end-to-end deployment of microservices, infrastructure, and frontend websites for 4 teams, improving delivery speed and consistency across the organization.
- Led development across the full stack to facilitate direct vaccine reservation and ordering platform including integration with third party payment processor Stripe and shipping partner UPS to deliver \$150M+ in annual revenue.

### DoorDash – Remote (Seattle, WA)

*Software Engineer – January 2022 - November 2022*

- Led design and planning for improvements to a Kotlin rules engine responsible for processing fraud prevention checks throughout DoorDash transactions including sign-in, ordering, delivery assignments, and credits/refunds.
- Developed real-time data aggregation systems using Flink, Kafka, and Cassandra to improve data accuracy and introduced outage recovery mechanisms to automatically heal aggregations after outages, eliminating the need for manual data recovery backfills.
- Led migration of platform services from a global to a cellular infrastructure, improving resiliency through redundancy and regional isolation of infrastructure.

### Amazon.com – Seattle, WA

*Software Development Engineer – June 2014 - October 2021*

- Designed and developed backend web services responsible for processing 80+ million digital orders and subscriptions per month for products such as Alexa, Appstore, Fire TV, Twitch, Ring, and Luna
- Developed low-latency, highly cached services responsible for device compatibility for purchases on first-party and third-party devices. The services provided critical functionality for Amazon Appstore, Alexa, and Fire TV experiences, processing billions of compatibility requests per month.

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- Performed load testing, load estimation, scaling, and optimization on an ongoing basis and for anticipated high-volume events. Scaled up globally distributed systems for peak purchasing seasons, creating traffic projections and monitoring tools. Prepared for millions of device compatibility checks and digital orders processed over a 24-hour period.
- Designed database and caching schema for global Java web services utilizing AWS to achieve peaks of 30,000+ transaction/second volume
- Developed internal tools (scripts, browser extensions, web pages) to improve team productivity
- Mentored multiple software engineer interns leading to full time offers and return of multiple candidates

## Education

**University of Minnesota - Twin Cities – Minneapolis, MN**

*Bachelor of Science – Computer Science + Mathematics (dual major) – May 2014*

- Graduated *summa cum laude* in the University Honors Program