

Backend engineer with 6+ years working on distributed systems and elegant hardware-software integration. Architects scalable APIs that power responsive, real-time experiences across mobile, biometrics and retail devices.

WORK EXPERIENCE

Amazon - AWS

2022 - 2024

- Led team of 4 to deliver a public, idempotent REST API for Amazon One (AO) Enterprise, enabling palm-based authentication for third-party enterprise clients using the AWS Console. Engineered high-performance Java service for securing sensitive biometric data (Palm Images, Biometric IDs, Badge IDs) via envelope encryption (AWS KMS). Achieved sub-200ms p99 latency at 1000 transactions per second across 12 APIs.
- Drove team of 3 to deliver a native Android/Kotlin App that integrates with Amazon One (AO). It enabled clients to verify customer 21+ eligibility through a palm scan. Architected a resilient state machine on the AO device to handle complex backend auth flows within the constrained Android UI, mitigating inconsistent states caused by intermittent connectivity.
- Collaborated across teams to add Starbucks gift card support to the Amazon One palm hover experience for fast checkout. Extended backend systems to map 3rd party identifiers, such as a Gift Card barcode, to internal biometric identifiers on-device through a secure API.

Amazon - Whole Foods Market

2018 - 2022

- Drove \$40M in operational savings by developing and rolling out an Inventory Restocking mobile web application running on commercial-grade handheld scanners (Honeywell), enabling store associates to scan and submit forecasted item quantities to vendors for replenishment. Launched an MVP in 10 pilot locations and scaled to 500+ physical stores nationwide.
- Spearheaded event-driven architecture for real-time inventory suggestions, via SNS-based forecasting. Built resilience using SQS and parallel Lambda instances, implementing time-zone aware prioritization to guarantee 100% on-time delivery of inventory lists managed in DynamoDB for nationwide store replenishment.
- Architected and delivered idempotent batch APIs and backend jobs that improved action latency by 90%. Optimized payload sizes and reduced network overhead by having batch APIs process store section IDs rather than individual item IDs, improving background job initiation latency. This ensured responsive UI interactions in high-latency store environments, scaling to millions of items processed daily.
- Led design and implementation of Dash Cart Checkout for "Just Walk Out" shopping. Delivered a workflow solution that auto-charged an account when customers entered a 'checkout zone' and emailed receipts upon store exit. Built serverless workflow using AWS SWF to keep state management at a minimum while maintaining app monitoring via observable metrics.

SPAWAR (US Navy)

2017 - 2018

- Engineered infrastructure automation for Bell Boeing V22 Osprey Aircraft support, securing data environments via dynamic Layer 3 proxy routing and application firewalls. Reduced deployment friction by automating a largely manual process with Ansible, enabling lab technicians to continuously deploy to a secured lab environment.

SKILLS

Engineering Domain	Backend-for-Frontend (BFF), API Design, Distributed Systems, Mobile Systems Design
Programming Languages	Java, Kotlin (Android), Python, Javascript (TypeScript, NodeJs), SQL, Bash/Zsh
Compute & Containers	AWS Lambda, Fargate, EC2, Kubernetes (EKS), Docker
Data & Storage	DynamoDB, PostgreSQL, MongoDB, Redis, S3, Redshift
Events & Messaging	Kafka, SNS, SQS, RabbitMQ
Infra as Code (IaC)	AWS CDK, CloudFormation, Ansible
Observability & Metrics	CloudWatch (Metrics, Dashboards, Alarms), Structured Logging, Distributed Tracing

EDUCATION

University of California, San Diego	B.S. Joint Mathematics and Computer Science B.S. Cognitive Science <i>with specialization in Machine Learning and AI</i>
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