

# Ashwanth Fernando

## Principal Software Engineer

Distributed Systems | Backend Engineering | AWS & GCP | Microservices

New York / San Francisco

E3 Visa Eligible — no lottery, 2-week processing

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## Summary

- Hands-on principal-level engineer/architect with **15+ years** building and scaling **distributed systems** at **Apple, Canva, eBay, Atlassian, and Walmart**. Led teams up to 12; authored **5 patents**; shipped **99.999% availability** load balancers and **10x commerce dialog conversions**.
- Built platform systems at **Walmart** (Fortune 1) enabling an **8,000-developer ecosystem**, drove migration to open-source stack **saving \$100+M/yr**. Scaled **Canva Search 20M→80M MAU** (4x). Shipped 7 live collab products driving **10+M MAU growth**.

## Technical Skills

**Languages:** Java (primary), Go, Python, Kotlin, Scala, Node.js

**Cloud:** AWS (EC2, RDS, DynamoDB, SNS/SQS, ElastiCache), GCP (BigQuery, Pub/Sub)

**Infrastructure:** Kafka, Spark, Redis, ZooKeeper, Solr, Spinnaker, Terraform, Kubernetes, Helm, Docker

**Frameworks:** Spring, GraphQL, gRPC, Temporal, Protobuf

**AI/ML:** LLMs, RAG, LangGraph, agentic workflows

## Experience

**Principal Software Engineer**, Tentacle Software Jan 2022 - Present

*Boutique consultancy for high-throughput, low-latency distributed platforms. Project duration 1 yr to 2 yrs.*

**Macquarie Bank**

Feb 2025 - Present

- Led cross-functional performance program across 5 teams (20+ microservices), fixing caching, reactive processing, DB schema, and JVM GC issues. **p95 down 14%, p99 down 9%, throughput up 3.5x**. *Java, Spring, Reactor, Redis, GraphQL, Spanner, GCP.*

**WEX**

May 2024 - Jun 2024

- Modernized Kafka → Spark → BigQuery pipeline processing **1.2M+ daily events** with exactly-once delivery, reducing reconciliation lag **by 65%**. *Spark, Go, Kafka, Docker.*

**Coles**

Apr 2023 - May 2024

- Architected and built BFF service for Coles online grocery, cutting **end-to-end latency by >40%**. *Java, Kotlin, Spring, Reactor, Azure, ArgoCD.*

**Atlassian**

Feb 2022 - Mar 2023

- Designed consistent-hashing active-active load balancer for Elasticsearch, increasing **Confluence search availability +7% globally**. *Java, Spring, ZooKeeper, ElasticSearch, AWS.*

**Founding Engineer**, Packsmith

Jul 2024 - Nov 2024

- Led end-to-end technical strategy for AI-driven last-mile logistics platform. Built priority tagging for Shopify feeds, improving shipping times **by 140%**. Built Temporal workflows for shipment orchestration. *Go, GCP, Temporal, Kubernetes, Terraform, Pub/Sub.*

**Engineering Manager / Staff Engineer**, Canva (\$42B design platform)

Nov 2018 - Jan 2022

- Scaled **Canva Search 20M→80M MAU** (4x) by decomposing monolith into microservices, re-architecting Solr indexes, and implementing cache deduplication. Delivered autocorrect, query suggestions, and trending insights. *Java, Solr, MySQL, Redis, AWS.*
- Scaled team from 0→6 engineers, shipping 7 live collab products in 2 years driving **10+M MAU growth (20% of Canva's users)**. Owned hiring, performance reviews, and roadmaps while remaining hands-on.

**Senior Staff Engineer**, eBay, San Jose, California

Nov 2014 - Aug 2018

- Built **dynamic config system + page assembler** for eBay's core search, enabling business teams to adapt UI/UX without engineering, cutting **months off release cycles**. Built **dialog SDK** (Facebook, Google Assistant integrations), **increasing Shopbot sales 10x**.
- Created **open-source regression-testing framework (Regressr)**, adopted across departments. Led teams of **6+ engineers**.

**Principal Engineer (ICT 5)**, Apple, Cupertino, California Sep 2013 - Oct 2014

- Built **globally distributed load balancer** with **99.999% availability** for device activations. Led **12 engineers**; built config management, heartbeat monitoring, and deployment orchestration. *Node.js, ZooKeeper, Java, Akamai GSLB.*

**Staff Software Engineer**, Walmart, San Bruno, California Oct 2010 - Sep 2013

- Built platform for **8,000+ developers**: deployment parallelization for **300+ apps (80% faster deploys)**, enterprise config management for **200+ microservices**, and auto-CRUD API generator saving **8+ months of manual work**. Led **Walmart Canada SEO platform**, reducing **bounce rates 30%**. *Java, Spring, ZooKeeper, Groovy.*

## EXTENDED CAREER HISTORY

**Software Engineer**, Best Buy Aug 2005 - Oct 2009

**Software Engineer**, Pearson VUE Nov 2009 - Apr 2010

**Software Engineer**, Walgreens Apr 2010 - Sep 2010

## Education

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**Master of Computer Science**, Anna University | **Bachelor of Computer Science**, Madras University

## Patents

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- **Systems and methods for interactive presentations** - US 20230205552
  - **Systems and methods for storing and replaying presentations w/ video and audio** - US 20230205808
  - **Systems and methods for remotely controlling electronic presentations** - US20230076902A1
  - **System and method for increasing throughput of a PaaS system** - US 9342369 B2
  - **Verification of complex multi-application and multi-node deployments** - US 20140109082

## Publications

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- Building a Data-Driven Autocorrection System - Canva Engineering Blog
  - Introducing Regressr: An Open Source Regression Testing Tool - eBay Tech Blog