

Patrick Torbett

STAFF SOFTWARE DEVELOPMENT ENGINEER · TECHNICAL LEADER · MENTOR

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Professional Summary

Staff Software Engineer specializing in high-scale abuse prevention architecture and ML-powered risk decisioning systems. San Diego-based technical leader with demonstrated success in cross-functional collaboration, infrastructure optimization, and elevating engineering practices across organizations through mentorship and architectural guidance.

Experience

Senior Software Development Engineer (L6)

San Diego, CA

AMAZON, BUYER RISK PREVENTION

July 2021 - Present

- led architecture and engineering strategy tackling \$800MM/year Buyer Abuse Prevention across e-commerce domains; designed distributed, multi-tenant ML feature platform, processing 10k+ TPS that powers real-time risk decisioning across Amazon's global customer base
- led migration of key account clustering risk signal (\$100MM-\$500MM/year impact); architected phased rollout and designed shadow testing framework. Drove end-to-end execution: technical design, monitoring, and ML/data science alignment
- architected performance-accuracy trade-offs in risk system spanning returns, checkout, and payments; orchestrated 50+ detection points, balancing key real-time decisions (sub-150ms) with slower, comprehensive offline risk evaluations
- drove strategic partnership with customer service org to align technical roadmaps; delivered immediate abuse reduction (\$1.5MM/year savings) while designing enhanced experience paths for high-risk customer interactions
- bridged engineering-ML knowledge gap through feature engineering guides and cross-functional workshops, reducing support queries by 22% and eliminating integration bottlenecks that previously delayed projects
- scaled engineering excellence across 6 global teams (~60 engineers) through integrated mentorship: conducting weekly office hours, authoring best practice guides, catalyzing virtual cross-functional discussions, and fostering a safe environment for feedback
- achieved 33% infrastructure cost optimization while building organizational expertise in AWS optimization; led hands-on workshops for JVM profiling, instance right-sizing, buffer reduction, and dynamic scaling
- demonstrated generative AI's practical value to leadership and junior engineers by using Claude 3.5 LLM to build migration accelerator for 250+ workflows across 10 teams, while creating strategic roadmap for broader adoption
- led Java development with contributions to TypeScript infrastructure as code (AWS CDK) and Python ML data processing pipelines

Software Development Engineer (L5)

San Diego, CA

AMAZON, BUYER RISK PREVENTION

August 2019 - July 2021

- revitalized abusive account review tool (supporting 1000+ investigators) through systematic code modernization (Java, Spring MVC); transformed unmaintained legacy system into maintainable service using SOLID principles and clean design patterns that enabled seamless handoff from solo development to a dedicated tooling team
- transformed release process from monthly cycles to continuous delivery; implemented automated UI testing (Selenium) and monitoring that reduced deployment failures and shortened feature delivery time from weeks to days

Software Development Engineer (L4 → L5)

Seattle, WA

AMAZON, RECommerce | HIRED AT L4, PROMOTED TO L5 IN 2016

July 2014 - May 2019

- led development of enterprise-scale decision system ('Prophecy') handling 1+ billion inventory routing decisions annually; leveraged data fetching optimizations such as caching and concurrent processing to meet user latency requirements while maximizing economic recovery from returned/damaged inventory with additional offline data collection for additional analysis
- designed inventory partitioning scheme for strategic initiative to unblock granular B2B sales at the pallet level versus truckload-only
- maintained Ruby on Rails application guiding associates worldwide through returned/damaged product quality evaluation flows

Main Technologies: Java, AWS (EC2, ECS/Fargate, Lambda, S3, SNS/SQS, DynamoDB, CloudWatch), Spring MVC

Education & Research

University of California, San Diego

San Diego, CA

B.S. IN COMPUTER SCIENCE (CUM LAUDE)

2010 - 2014

- published research: Chroma: a wearable augmented-reality solution for color blindness (Ubicomp 2014)
- tutored for 2 years in CSE 130: Programming Languages with OCaml, Haskell, and Scala