

# 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