

# HAMZA MUHAMMAD

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## EXPERIENCE

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### Meta

June 2025 - present

Senior Software Engineer

- Designed and led a metric-onboarding framework that decouples new ad measurement dimensions from schema changes via a prefix-encoded slot-reuse scheme; cut onboarding time-to-market 78% (33d → 7d), unblocked 1.6% ad revenue lift across previously-blocked experiments, and eliminated a recurring class of schema-mismatch production incidents
- Built local\_e2e, an end-to-end testing tool for ads measurement pipelines that compiles production SQL locally, seeds Presto with cached prod samples, and executes the DAG topologically; cut change-safety feedback loop from 2+ hours to under 30 min and eliminated test-infrastructure flakiness
- Reverse-engineered and ported a complex, sparsely-documented legacy exposure-logging system to the next-gen measurement platform; cut per-dimension storage 50x (~100TB) and raised version-pair coverage from 8% to 35%, launched with zero issues
- Designed and shipped a framework enabling the platform to join against delayed and enriched data sources (e.g. tables where today's data lands 3+ days later), unlocking 0.51% realized ads revenue lift; productionized with dashboards, alerts, and DQ checks, and cut a downstream pipeline cost 100x (\$50K+/yr savings)

### Amazon

Feb 2024 - June 2025

Software Development Engineer II

- Designed and shipped the real-time event pipeline powering security monitoring across 175+ Amazon fulfillment centers; sustained thousands of events/sec at peak with p99 end-to-end latency under 5s, serving status updates and alerts to 3K+ daily on-site staff and cutting incident response from hours to minutes
- Built and shipped to production a RAG-based resolution agent over historical support-case data, autonomously handling ~17% of ~1K monthly security tickets (access requests, alarm faults); designed retrieval end-to-end (embedding generation, vector index, reranking) and integrated with existing ticketing infrastructure

### Dropbox

July 2022 - Feb 2024

Senior Software Engineer

- Contributed to retrieval architecture for Dropbox Dash combining dense/lexical search with knowledge-graph traversal, shipped as the default ranking stack at launch
- Owned ingestion and indexing pipeline for Dash supporting GA launch to thousands of users across enterprise partners (incl. McLaren Racing); sustained 10K docs/sec with p99 freshness of 7min, solving backpressure around embedding-generation bottleneck via adaptive rate-limiting and chunking
- Drove hybrid-cloud architecture connecting on-prem Kubernetes to AWS via Direct Connect, unlocking managed services (MSK, RDS) for Platform org; adopted as the reference pattern for subsequent migrations

### Amazon

Oct 2019 - July 2022

Software Development Engineer

- Built continuous-training framework and multi-tenant data lake for ML inference and A/B evaluation; productionized NLP/CV models behind high-scale recommendation surfaces

## SKILLS

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<b>Languages</b>	Python, Golang, TypeScript, Java, Scala, GraphQL, SQL
<b>Frameworks</b>	PyTorch, Spark, Terraform, CDK, React Native, Pandas
<b>Platforms</b>	Kafka, Elasticsearch, Redis, Docker, Bazel, AWS

## EDUCATION

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**The University of Texas at Austin**  
B.S. Computer Science, with Honors

May 2018