# LUIS NORMAN

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## PROFESSIONAL SUMMARY

Software Engineer with 6+ years of experience, including 4+ years on Amazon Music's Core Services search platform serving 80M+ global listeners. Focused on indexing, ranking, and relevance, delivering systems that reduced p99 latency by ~23% and improved search precision by 7pp in North America, while re-architecting the document ingestion pipeline for elastic auto-scaling. Experienced building distributed systems, search infrastructure, and high-throughput data pipelines in Java on AWS.

## EDUCATION

**DePaul University** Chicago, Illinois

*M.S. in Computer Science | June 2021 | Full-time student, 2019–2021*

**Purdue University Northwest** Hammond, Indiana

*B.S. in Computer Engineering | Minor: Computer Science | May 2018*

**Coursework:** Service-Oriented Architecture, Distributed Systems, Concurrency, Intelligent Information Retrieval

## EXPERIENCE

**Amazon Music** San Francisco, CA

*Software Development Engineer* March 2022 – Present

- Designed and built an event-driven data consistency service (SNS/SQS/Lambda) that decoupled search result validation from the request path, reducing p99 search latency by ~23% across all regions for 80M+ global listeners. The service processes 25K+ events/sec and triggers automatic reindexing when results diverge from authority sources.
- Owned a search diversification feature that fixed a position bias in click-based popularity by marking the most authoritative track per trackset at ingestion and switching ranking to label-provided signals. A/B tested over 14 days and improved search precision 7pp (52% to 59%) for 30M+ North American listeners with no recall regression.
- Re-architected Amazon Music's document ingestion system from a legacy self-hosted fleet to OpenSearch Ingestion (OSI), leading 2 engineers to build a router for index coordination and a pipeline-per-cluster design for multi-cluster fan-out and JOLT-based document transformation. The migration cut backfill indexing time by ~64% (18hrs → 6.5hrs) and introduced elastic auto-scaling.
- Migrated the Voice and Library platforms off a legacy monolithic core search service onto a new microservices architecture, coordinating across platform teams to update API contracts and resolve client compatibility issues.
- Built an internal admin tool for manually indexing documents to search clusters, used company-wide to resolve search visibility issues and reduce on-call burden.
- Serve as rotating on-call engineer for the core search platform, managing high-severity incidents for 80M+ global listeners.

**Cisco Systems** San Jose, CA

*Software Engineer* July 2021 – March 2022

- Built an automated CI/CD fleet that provisioned clean APIC simulator environments with full fabric topology on every code review submission and delivered results via multi-channel notifications, shifting testing from a manual, once-per-sprint process to every PR with zero human involvement.

**Silverwork Solutions** Chicago, IL

*Software Engineer* May 2018 – July 2019

- Joined as one of the founding engineers (4th hire), led design sessions with client stakeholders to define requirements, and built core mortgage lending automation software that helped scale the company from 4 to 20+ employees.
- Designed and built an SMS-driven mortgage automation service that allowed lenders to initiate and advance loan applications via text, creating a fully desk-free lending workflow with no manual processing steps.

## TECHNICAL SKILLS

**Languages:** Java (primary), C++, Python

**Cloud Technologies:** AWS (ECS, Lambda, DynamoDB, S3, OpenSearch, CloudWatch)

**Specialties:** Large-Scale Search Infrastructure, Distributed Systems Design, Event-Driven Architecture, High-Availability Systems