

LANGUAGES

English	Native
Spanish	Proficient

MY CAREER



- Principal Machine Learning Architect at Northstar Marketplaces (4.7 Years)
- Staff Machine Learning Engineer at BrightLoop Media (3.5 Years)
- Senior Data Scientist, Recommendations at HarborNine Commerce (3.3 Years)
- Machine Learning Engineer at VectorPath Systems (2.4 Years)
- Software Engineer at Cedar Ridge Software (1.9 Years)

Developed recommendation models and evaluation systems for a growing commerce catalog. Partnered with product and merchandising teams on experiments, relevance tradeoffs, inventory constraints, and measurable commercial outcomes.

- Developed personalized **retrieval** and **ranking** with implicit feedback, item attributes, session context, and seller signals.
- Built reusable datasets monitoring precision, recall, **NDCG**, coverage, and **diversity** across model releases.
- Implemented inventory-aware **reranking** with category constraints, price bands, and merchandising priorities.
- Designed experiments linking recommendation quality with conversion, basket composition, and average order value.
- Prototyped **Kafka**-based feature generation and service caching for recent views, searches, and purchases.
- Presented model tradeoffs to technical and business audiences, shaping sequenced delivery plans.

Machine Learning Engineer

VectorPath Systems 📅 July 2012 - December 2014 📍 Chicago, IL

Implemented recommendation pipelines and retrieval services for retail and media clients. Supported model evaluation, OpenSearch integration, deployment practices, data quality, and client-facing technical delivery.

- Implemented batch recommendation pipelines with collaborative filtering, content features, and scheduled model scoring.
- Built **retrieval** evaluation tools comparing candidate-generation strategies against precision, recall, and **ranking** benchmarks.
- Integrated **OpenSearch** indexes with **Python** services for fast item lookup and catalog-aware experiments.
- Added validation and lineage checks across clickstream, catalog, and transaction feeds before model jobs.
- Containerized inference components with documented deployment, rollback, and troubleshooting procedures.
- Delivered client demonstrations clarifying **cold-start** behavior, system limits, and expected business outcomes.

Software Engineer

Cedar Ridge Software 📅 July 2010 - June 2012 📍 Raleigh, NC

Built Java and Python services for search, catalog metadata, customer activity, and distributed commerce workflows. Contributed testing, ingestion, relevance, defect investigation, and an early personalized browse prototype.

- Developed **Java** and Python services for search, catalog metadata, and customer activity processing.
- Created batch ingestion jobs with schema validation and retry handling for dependable analytics feeds.
- Improved search relevance through **OpenSearch** analyzers, filters, and query templates.
- Built API tests and performance checks, documenting latency findings for senior reviewers.
- Investigated production defects with QA, product, and operations partners, translating workflows into maintainable fixes.
- Presented a personalized browse prototype that launched subsequent recommendation research and experimentation.

PROJECTS

Real-Time Resale Personalization Platform 📅 2025

Created an adaptive recommendation concept for resale catalogs, combining streaming behavior, vector retrieval, reranking, cold-start signals, and low-latency serving. Focused decisions on relevance, diversity, conversion, and AOV.

Open-Source Ranking Toolkit 📅 2019

Maintained reusable ranking components and evaluation utilities for retrieval research. Contributions supported clearer comparisons across recall, precision, NDCG, and reranking approaches.

LEADERSHIP & AWARDS

- ACM RecSys Industry Impact Recognition, 2023
- Internal Distinguished Technical Leadership Award, 2021
- Open-source Contributor Recognition for Ranking Toolkit, 2019

EDUCATION

Master of Science in Computer Science

North Carolina State University 🎓 GPA: 4.0 📅 2010 📍 Raleigh, NC

Coursework: Machine Learning, Distributed Systems, Information Retrieval, Data Mining, Software Engineering

CERTIFICATIONS

- AWS Certified Machine Learning - Specialty 📅 2024
- Google Professional Machine Learning Engineer 📅 2025

TECHNICAL SKILLS

- **Recommendation Models:** Collaborative Filtering, Learning to Rank, Reranking
- **Search Platforms:** OpenSearch, Elasticsearch, Query Templates
- **Machine Learning Frameworks:** PyTorch, TensorFlow, Scikit-learn
- **Programming Languages:** Python, Java, SQL
- **Feature Infrastructure:** Feature Stores, Online Features, Feature Engineering
- **Vector Retrieval:** Vector Databases, Approximate Nearest Neighbor, Embeddings
- **Streaming Systems:** Kafka, Streaming Pipelines, Event Processing
- **Distributed Systems:** Distributed Services, High Throughput, Scalability
- **Serving Systems:** Real-Time Serving, Low-Latency APIs, Model Deployment
- **Evaluation Methods:** Recall, Precision, NDCG
- **Business Metrics:** Conversion, Average Order Value, Diversity
- **Cloud Platforms:** AWS, Containers, Cloud Services
- **Experimentation:** A/B Testing, Online Experiments, Offline Evaluation
- **Architecture Practice:** Architecture RFCs, Technical Reviews, Platform Migrations
- **Data Operations:** Clickstream Data, Catalog Data, Data Lineage

PROFESSIONAL AFFILIATIONS

- ACM RecSys Conference Volunteer Reviewer, 2022 - Present
- Women in Machine Learning Mentor, 2018 - Present
- Open-source Ranking Systems Maintainer, 2019 - Present

ADDITIONAL INFORMATION

Work Status : Authorized to work in United States. No sponsorship required.

REFERENCES

AVAILABLE ON REQUEST