JESSE AKES

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EDUCATION

University of Washington June 2025
- Master of Science in Applied and Computational Mathematics

University of North Carolina at Chapel Hill May 2019
- Bachelor of Science in Computer Science and Minor in Mathematics

WORK EXPERIENCE

Headway (Seattle, WA) July 2025 - Present

Senior Software Engineer, Patient Matching and Ranking Team
- Inagural member of the Patient ranking team, implementing huersitic and ML personalized search in ElasticSearch that lead to 4% increased matches for patients seeking care
- Operationalized teams SLO's, culture leader who interviwed and hired staff/senior level ML engineers for the ranking team
- Migrated from serverless to ECH with zero downtime, reduced search latency p99's from 12 sec to 2 sec, the same for our re-ranker calls to AWS Sagemaker

University of Washington (Seattle, WA) Aug 2024 - June 2025

Research Assistant, Department of Civil and Environmental Engineering under Nicoleta Cristea
- Analyzing the impact of climate change on the Pacific Northwest's hydrology and water resources, focusing on the Skagit River Basin
- Developed open source climate data aggregation package in python for quick access to meterological data from 7 different sources in order to evaluate efficacy as DHSVM input for extreme weather scenarios

Tumblr/Automattic (Remote - Seattle, WA) Feb 2023 - Aug 2024

Software Engineer II, Tumblr Search/Tumblr Notifications Team/Tumblr Feeds and ML Team
- Founding member of Tumblr's new Search and Notification teams, focusing on scalability and user growth by managing the Tumblr search indices, Feeds systems, and algorithmic push notification engine
- Reduced search indexing latency to near-realtime (order of seconds) from 3 minutes by refactoring and optimizing ingestion pipeline for post creation
- Increased user engagement by 8% through targeted recommendations and surfacing relevant content on user feeds via push notification

Twitter (Seattle, WA) Mar 2021 - Nov 2022

Software Engineer II, Search Infrastructure Team
- Owned, maintained, and enhanced Twitter's distributed tweet search indices including implementing parallel indexing of multiple independent data sources reducing startup and deploy time by half
- Designed, lead, and wrote stability and performance features to Twitter's internal Search-as-Service platform:
  - A configurable, automatic snapshotting feature to save and restore cluster state (ultimately reducing recovery time from 26 hours to 3 hours for one internal customer team)
  - A dynamic, auto-scaling solution to load terabytes of data into ElasticSearch safely and efficiently (upwards of 4,000,000 documents indexed per second)
- Driver of team learning initiatives including monthly lunch and learn where members present technical workshops to peers, as well as weekly "thinking lounge" where distributed members can collaborate and discuss technical challenges
- Designed project and mentored intern in technical work and implementation during Summer 2022
- Conducted interviews, aiding in decisions to hire 2 members of the team
- Co-wrote Stability and Scalability for Search, posted on the public Twitter Engineering blog

Amazon.com (Seattle, WA) July 2019 - Mar 2021

Software Development Engineer, Amazon Global Store Promotions and Customer Experience Team
- Advocated for, designed, and implemented Amazon Global Store internal API as source of truth on global store products, providing consistent and accurate customer experience for both internal and retail customers, saving 100's of infrastructure dev hours when implementing new features
- Increased customer awareness of product origin and drove up OPS by upwards of 40% in some marketplaces by designing and implementing program badging of Amazon Global Store products worldwide

SKILLS

Languages	Python, Java, Scala/Scalding, PHP, TypeScript, Kotlin, C/C++, MySQL, ReactJS
Other Technologies	Linux, Git, Spring, Guice, Mockito, Hadoop, Kafka, AWS, Elasticsearch, Kubernetes, Spark, XArray, Zarr, Temporal, Celery