

Azma Ali

Learning Engineer | Software Engineer | Learning Systems Designer

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SUMMARY

Learning engineer and software engineer with five years of experience building high-throughput APIs, search systems, and data pipelines at Microsoft, followed by education-platform development at Knowledgehook. Currently completing an M.Ed. in Curriculum and Pedagogy at OISE, with work focused on formative assessment, self-regulated learning, mathematical reasoning, and making student thinking visible. I design learning systems from both sides: the technical infrastructure and the learning experience it supports.

AREAS OF EXPERTISE

Learning and Product Design: Formative assessment, feedback design, processfolios, learning experience design, curriculum design, scaffolding, self-regulated learning, learner-centred product development

Software Engineering: C#, .NET, Python, Scala, SQL, TypeScript, REST APIs, distributed systems, domain-driven design, workflow orchestration

AI, Data and Infrastructure: LLM application prototyping, prompt evaluation, recommendation systems, Apache Spark, Databricks, Redis, SQL Server, Azure, CI/CD, Kusto

PROFESSIONAL EXPERIENCE

Senior Software Engineer - Knowledgehook

Toronto | Sept 2025- Jan 2026

- Developed teacher- and administrator-facing capabilities for a mathematics learning platform, translating district, classroom, rostering, and course-management requirements into production features across .NET, SQL Server, and Angular.
- Contributed to a domain-driven redesign of rostering and course-management systems, including database schema changes, domain-model refactoring, and service-layer implementation.
- Investigated product and engineering constraints across backend and frontend systems and authored design proposals for feature migration and a new local PDF-generation pipeline.
- Resolved production issues affecting authentication, translations, platform configuration, and classroom-management workflows in a large education-platform codebase.
- Removed legacy Firebase dependencies and contributed to broader refactoring efforts that reduced platform complexity and improved maintainability.

Education Manager - Boys and Girls Club Canada

Toronto | Jan 2025- Sept 2025

- Designed individualized learning plans for students aged 6–18 across mathematics, literacy, STEM, and academic skill development.
- Led tutors and youth staff in delivering culturally responsive, trauma-informed learning programs in after-school and summer settings.
- Used student work, observation, and ongoing conversations to identify learning needs and adjust instructional support.
- Collaborated with schools, families, and community partners to improve access, participation, and continuity of support for learners.

Software Engineer - Microsoft

Seattle, WA | Jan 2020 - Jan 2025

- Designed and operated backend APIs serving more than **10,000 requests per second** across enterprise customer-data workloads in Microsoft Dynamics 365 Customer Insights.
- Built search, retrieval, and hydration systems supporting timelines and unified customer profiles across datasets exceeding **100 million profiles**.
- Developed metadata-driven Spark workflows that transformed heterogeneous customer data into consistent downstream representations across a multi-tenant platform.
- Improved identity resolution across more than **50 data sources**, reducing duplicate customer profiles by **27%** through deterministic and probabilistic matching strategies.
- Migrated profile search from Azure Cognitive Search to Dataverse Search and Elastic Tables, achieving **sub-150 ms p95 latency**.
- Reduced database round trips by **40%** by replacing EF Core paths with Dapper and improved high-cost queries from approximately **2 seconds to 200 ms** through indexing and query optimization.
- Evaluated Customer Insights Copilot prompts and output behaviour across product scenarios, identifying response-quality and reliability issues.
- Improved production reliability through CI/CD, automated testing, telemetry, incident investigation, and operational guidance using Azure Monitor, Application Insights, and Kusto.

EDUCATION

University of Toronto - OISE

Master's of Education (Curriculum & Pedagogy)

Expected 2027

Graduate focus: formative assessment, mathematics education, self-regulated learning, curriculum design, educational games, critical thinking, and AI-supported learning

University of Toronto

Bachelor of Science in Computer Science and Mathematics

2019

ADDITIONAL TEACHING EXPERIENCE

University of Toronto — Teaching Assistant, Calculus | 2016–2019

Facilitated tutorials and supported students in first-year differential and integral calculus.

Canadian Association for Girls in Science — Coding Club Lead Instructor | 2018–2019

Designed and delivered programming experiences for girls and young women.

RECOGNITION

NSBE Google Hackathon — First Place | 2019

Developed an API prototype using Stripe and Plaid to help small nonprofit organizations collect donations.