

# Mehrdad Alemzadeh

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**Location:** Toronto, Ontario | Canadian Citizen

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## Summary

Senior Application Solution Architect and high-performing Full Stack Software Engineer with a proven record of leading and delivering impactful solutions for mission-critical initiatives across multiple teams and departments. Skilled in cloud services and end-to-end SDLC ownership, with expertise in leveraging AI-assisted development to accelerate software delivery. Experienced in setting technical direction, mentoring engineers, and driving cross-functional collaboration at scale. Expert problem-solving skills and consistent ability to deliver cost-effective, high-quality outcomes.

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## Skills & Core Competencies

Category	Details
<b>Strategy &amp; Stakeholders</b>	Executive-level roadmap planning · Multi-million-dollar migration strategy · Cross-functional stakeholder alignment · Cost reduction & optimization · Vendor engagement & architecture governance
<b>Leadership &amp; Delivery</b>	Onsite/offshore team management (20+ engineers) · Hiring & technical interviewing · Developer mentoring & onboarding · Delivery planning & capacity management · SDLC ownership · ITIL release management
<b>Solution Architecture</b>	Distributed systems design · High availability & disaster recovery · Microservices & API design · Event-driven architecture · Enterprise integration (REST / SOAP / MQ) · Fraud detection & FinTech systems
<b>AI &amp; Data Engineering</b>	RAG / LLM integration · Prompt engineering · Agentic workflows · ML pipelines · Databricks · Azure OpenAI · Form Recognizer
<b>Languages &amp; Frameworks</b>	Spring Boot, .NET, FastAPI / Django / Flask (Python), Express.js, React, Angular, iOS, Android, JavaScript, Chrome Extensions, Bootstrap, HTML, CSS
<b>LLMs &amp; Agentic AI</b>	Anthropic Claude, OpenAI ChatGPT, Grok, Meta Llama, DeepSeek, GitHub Copilot, Ollama, Eliza, Azure AI Foundry, AWS Bedrock
<b>Cloud &amp; Infrastructure</b>	Azure, AWS, GCP · Azure OpenShift · Kafka · Docker · Kubernetes · Azure Bicep · Ansible
<b>DevOps &amp; CI/CD</b>	GitHub Actions, Azure DevOps Pipelines, Jenkins, Makefile
<b>Security</b>	OAuth 2.0, JWT, API Keys, SSL Certificates, Sessions, Cookies, Apigee, API Proxies, RBAC, Azure Entra ID

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Category	Details
Databases	PostgreSQL, MS SQL / SQL MI, Oracle, MySQL, MongoDB, Firebase
Observability	Splunk, Dynatrace, Azure Monitor, Application Insights, Elasticsearch / ELK
Blockchain	Ethereum, Truffle Framework, Solidity (Smart Contracts), Ganache

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## Honors

- **Top 3 Enterprise AI Solutions — CIBC Dragon's Den Innovation Challenge** (*December 2025*)
- **Top 20 Developers at BNS — BlueOptima** (*June 2023*)
- **Ranked #1 in T-Factor at TCS** (*2018–2021*)
- **4-Year Academic Scholarship** — McMaster University

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## Education

**PhD, Computer Science** — McMaster University ([Completed Thesis 2016](#))

**M.Sc., Information Systems**

**B.Sc., Software Engineering**

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# Work Experience

CIBC — Commercial Banking & Payments | *Solution Architect (via Aletha)*

**June 2025 – Present**

## **Project 1 — CMO Mobile Migration & Modernization**

- Lead solution architect migrating a legacy mobile and web application from CGI infrastructure to CIBC Azure, including new features and functionality.
- Supporting 3,000+ users at go-live.

## **Project 2 — Safer Payment Canada Migration (IBM to CIBC Azure)**

- Drove design, POCs, application launch, and cost reduction strategies for a multi-million-dollar infrastructure migration.
- Planned and executed a migration roadmap targeting millions of dollars in annual cost savings.
- Engineered network configuration across multiple VNets with NSG rules for secure segmentation.
- Configured F5 load balancers for local high availability and global disaster recovery.
- Implemented APIM, RBAC, MSI, and SSL configurations for authentication, authorization, and security.

## **Project 3 — Pinot US Payment Fraud Solution**

- Lead architect building infrastructure to support fraud detection across multiple payment touchpoints.
- Architected highly available distributed systems across Azure and hybrid infrastructures using Kafka and Azure OpenShift.
- Embedded observability through Splunk, Dynatrace, and Azure Monitor for proactive anomaly detection.
- Delivered cost-effective, scalable solutions balancing regional failover with optimized service sizing.

## **Project 4 — Fraud Analysis Engine**

- Lead architect and solution designer for a vendor-based payment hold/review decision system.
- Full tech lead for end-to-end delivery.
- Azure-based solution with internal and external integrations via SOAP and REST APIs, VNet peering, VPN Tunnel, SSL, and SPNs.
- Integrations with SMTP, ServiceNow, CyberArk, Splunk, FeedHub, and Azure Monitor.

*Technologies: Azure OpenShift, Spring Boot, React, APIM, PostgreSQL, Kafka, Oracle, RSA, VPN Tunnel, Akamai, F5, Azure Blob, AKV, HashiCorp Vault, Dynatrace, Splunk, GitHub Actions, CyberArk, Google Firebase (FCM), VMs, SQL MI*

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CIBC — Enterprise Wires Modernization | *Senior Consultant (via Aletha)*

**January 2024 – June 2025**

- Owned end-to-end ODS solution architecture, DevOps, design, capacity planning, and delivery.

- Delivered **10x performance improvement** on the AMH parser application through hands-on development and architectural redesign.
- Boosted SQL MI database performance on Azure by **25%** by introducing a write-DB to segregate read/write indexes.
- Achieved **8x throughput improvement** on Swift MT-to-MX completeness validation.
- Optimized and generalized ADF pipelines for file transfers across upstream and downstream systems.
- Modernized analytics strategy through Databricks and Generative AI integrations.
- Resolved security deviations and led Tier 1 (high resiliency / high availability) migration planning and design roadmap.

*Technologies: Azure, Spring Boot, Azure Function Apps, Azure Data Factory, SQL MI, Application Insights, Azure Monitor*

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## ONEX | *Tech Lead & Architect (via Aletha)*

### July 2023 – December 2024

- Architected and delivered HRIS go-live; integrated Hibob with 10+ services including Shareworks, Carrot, Optum, iA, OCA, ActivPayroll, Active Directory, and Business Central.
- Extended an open-source Microsoft project into a production multi-index RAG solution — integrating Azure OpenAI, Microsoft Search, and Form Recognizer — **saving ~\$300K/year** in legal document review costs.
- Designed secure RBAC and Azure Entra ID access models for the AI-powered RAG/chatbot system, ensuring authorized-only data access.
- Engineered an invoice/expense integration service between Coupa and Business Central using Azure Function Apps.

*Technologies: Azure, Azure Function Apps, .NET, Spring Boot, Flask, Azure OpenAI, Microsoft Search, Form Recognizer, React*

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## AutoSavvy | *Application Architect (via Aletha)*

### October 2023 – 2024

- Optimized workflows and designed scalability strategies to improve platform throughput.
- Designed and normalized database schemas with rigorous validation procedures.

*Technologies: SQL SaaS, Azure Data Factory*

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## Scotiabank — Wealth Management | *Tech Lead (via Aletha)*

### March 2022 – July 2023

- Led as principal architect and technical lead, owning project delivery and aligning solutions with business goals through close stakeholder collaboration.
- Designed and delivered five key applications: Fixed Income API, Remediation Application, Real-Time XML Service, ADPR App, and Mediator API.

- Co-authored a 5-year modernization roadmap for the Wealth department, defining phased delivery strategies, platform integrations, and a GCP migration path.

*Technologies: Gradle/Spring Boot, Maven/Spring Batch, React, MS SQL SaaS, Oracle, REST & SOAP APIs, JAXB/WSDL/XSD/XML, Azure, WAM OAuth2, Apigee, Splunk, Dynatrace*

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## Aletha — Side Projects | *Sr. Application Architect*

### February 2022 – Present

- AI-based project effort estimator with chatbot generating high-level architecture, deliverables, and PERT-based effort breakdowns.
  - Interview agent full-stack solution for first-round candidate screening.
  - Custom full-stack Azure cost dashboard by resource group and service breakdown.
  - SuiteCRM deployment to Azure.
  - Timesheet app integrated with Azure Entra ID (Flask, React, MSSQL) — *Jan 2022*
  - Chrome extension integrated with OpenAI for page summarization — *Jan 2023*
  - Education app integrated with OpenAI; Dockerized FastAPI and PostgreSQL — *Feb 2024*
  - Conducting interview sessions for hiring and mentoring team on AI trends.
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## CIBC — Personal Banking Product & Technology | *Tech Lead (via TCS)*

### April 2014 – February 2022

- Directed onsite/offshore teams of 20+ developers, BAs, and QA engineers across programs spanning mortgage securitization, mortgage sale optimization, Azure migration, archive automation, DevOps modernization, log management, ITIL release management, production support, and CMHC/insurer reporting APIs.

*Technologies: Java, Spring Boot, Express/Node.js, Python, C#, VB, MS SQL, Git, GitHub, ClearCase, Maven, Jenkins, Ansible, UFT, Elasticsearch, ELK, Splunk, Dynatrace, Jira/Confluence, Docker, Kubernetes, Azure, Power Automate, Tableau, Crystal Reports*

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## St. Joseph's Hospital | *Software Engineer & Researcher*

### September 2014 – June 2016

- Partnered with the head of St. Joseph's Imaging Center to automate radiological lung image analysis for disease pattern classification.
  - Built a MATLAB-based classifier achieving **92%+ accuracy** across 10 irregular radiological patterns using neural networks and machine learning.
  - Developed a Python feature extraction tool to identify regions of interest (ROIs), working directly with radiologists to validate clinical relevance.
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## Certificates

**Cloud & DevOps:** Microsoft Azure AZ-900 · Cloud Architecture · DevOps Foundations · Six Sigma Foundations · Salesforce Integration (SOAP API) · Google Cloud Platform Fundamentals

**AI & Machine Learning:** Azure Machine Learning for Data Scientists · GitHub Copilot for Project Management · Generative AI for Leaders · Change Management for Generative AI · Neural Networks and Deep Learning (*deeplearning.ai*) · Improving Deep Neural Networks (*deeplearning.ai*) · Convolutional Neural Networks (*deeplearning.ai*) · Sequence Models (*deeplearning.ai*) · Machine Learning — Andrew Ng (Stanford) · Machine Learning A–Z: Python & R · Data Science and ML Bootcamp

**Programming & Full-Stack:** Foundational C# with Microsoft · OOP in Java (University of Helsinki) · Python and Django Full Stack Web Developer · The Web Developer Bootcamp · React — The Complete Guide (Hooks, Router, Redux) · MERN Stack Front to Back · Full Stack: Angular and Java Spring Boot · E-Commerce App with .NET Core and Angular · Blockchain & Cryptocurrency Full Stack

**Mobile:** iOS 12 & Swift Bootcamp · Android Oreo Developer

**Big Data & Analytics:** The Ultimate Hands-On Hadoop · Tableau and Crystal Reports (*also referenced in Experience*)

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## Open Source Contributions

**AI-Powered Solutions:** x-university (AI auto-generated courses for different age groups) · Agentic-AI (frontend developer integrated with Microsoft Teams) · PortfolioGPT (stock market analysis with LSTM models) · Multi-index ChatGPT solution with privacy management · Book Summarizer Chrome extension · Twitter & Reddit sentiment analysis tools · Azure video-to-text processing pipeline

**Full-Stack Development:** Interview Agent · Project Effort Estimator · Telegram-based news aggregator · CRM ideathon · Azure custom cost and security dashboard

**Enterprise Applications:** Flight Reservation System with check-in · Clinical Data Reporting Platform · eCommerce application · Document management system · Location tracking web application

**Mobile Applications:** Stock price tracker with AI suggestions · Weather forecasting app · Bitcoin price monitor · Bluetooth device finder · Custom Chrome browser with ad-blocker (*Android & iOS*)

**Automation & DevOps Tools:** macOS app arranger across virtual desktops/monitors/display positions · Windows custom hotkeys to mimic macOS keyboard shortcuts · Automated Yahoo Finance advertisement bot · Video download automation · macOS feature enablement shortcuts · Stock price web scraper · News summarization system

**Blockchain Solutions:** Full-stack cryptocurrency application · Smart contract development (Solidity) · Blockchain integration with modern web frameworks · Decentralized application (DApp) development · Personal bill/tax tracker

**Production Systems:** CIBC Commercial Banking modernization · Scotiabank Wealth Management platforms · Enterprise wire processing systems · Multi-million dollar migration projects · High-availability financial applications