

# Mahmoud Hachem

## AI/Software Engineer & Analyst

Ontario, Canada (Canadian-born) | (289) 547-5455 | mahmoudhachem2002@gmail.com

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### Professional Summary

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Software Engineer and Technical Analyst with experience delivering solutions for AI clients and projects, analyzing large datasets, and building practical solutions for clients. Skilled in full-stack development (ASP.NET Java, C#, SQL) and data workflows, with strong capabilities in debugging, vulnerability assessments, and API integrations. Skilled at bridging software engineering with data-driven analysis to deliver secure, scalable, and high-performance solutions in Agile environments.

### Experience

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#### Technical Analyst (Full Time)

October 2024 - Present

Accenture (End Client Industry: Leading AI Research Organization) - St. Catharines, Ontario

- Conducting Quality Assurance testing on agent tasks, evaluating performance against standards, and providing feedback to improve overall quality and consistency.
- Analyzing, documenting and reporting recurring system bugs/issues through log analysis, translating results into clear recommendations that improved system stability.
- Performing hands-on security assessments, identifying and flagging vulnerabilities to strengthen overall system architecture.
- Collaborating with internal operations to resolve high-priority incidents, like potential breaches, and unauthorized patterns.
- Supporting the integration of secure APIs and custom AI configurations, helping enterprise clients scale applications confidently.
- Communicating technical solutions to non-technical individuals for easy understanding and implementation.
- Conducting network diagnostics using tools like DevTools, HAR files, log analysis, and internal monitoring systems to analyze data transfer failures.

#### Data Analyst (Contract Part-time)

June 2024 - December 2024

Telus International AI Data Solutions - Toronto, Ontario, Canada (Remote)

- Gathered, cleaned, and organized data from various sources to ensure data quality and integrity.
- Maintained and updated large data systems, supporting seamless reporting and operations.
- Performed detailed analysis of data to identify trends, patterns, and insights.
- Identified areas for process improvement and efficiency within data management and analysis workflows.
- Implemented best practices for data analysis and reporting to enhance productivity and accuracy.
- Evaluated tasks and processes based on guidelines provided, ensuring compliance with established standards.

#### Jr Technical Analyst (Full Time)

May 2023 - September 2023

Ontario Ministry of Transportation - Toronto, Ontario, Canada

- Performed SQL database-related tasks, including data manipulation, querying, and data fixing.
- Created bug reports, test cases, and technical documentation, in turn created better communication between dev and QA teams.
- Conducted data backups and disaster recovery operations using Oracle SQL.
- Worked within Agile development methodologies, participating in all stages of the development cycle.
- Contributed to backend development projects, applying knowledge in creating systems to enhance management operations.

## Experience

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### IT Support Specialist (Seasonal)

Jan 2021 - November 2023

Marriot On The Falls Hotel - Niagara Falls, ON

- Assisted in data cleansing and troubleshooting errors in the housekeeping department system files to ensure data reliability.
- Streamlined maintenance operations and improved data accuracy through proactive reporting and inventory management.
- Enhanced data integrity of the housekeeping department's file management system, resulting in efficient and effective data administration.
- Enhanced data quality assurance through rigorous debugging and validation techniques.

## Education

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### Computer Programming/Analysis - Advanced Diploma (CO-OP)

September 2021 - December 2023

Niagara College - Welland, ON

President's Honor Roll for Academic Excellence (2022 & 2023)

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### Software Engineering - Bachelors of Technology (CO-OP)

May 2024 - April 2026

McMaster University - Hamilton, ON

Specialization: AI and Machine Learning

## Key Skills

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Programming & Databases

Debugging

Web Security

Tools & DevOps

Cloud & Deployment

Testing & Quality

## Projects

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### CAA Inventory Management System (Community Sponsored)

January 2023 - April 2023

CAA Niagara - Niagara Falls, ON

- Developed an inventory management application for all CAA Niagara Region branches.
- Created blueprints and wireframes for the development process of this application, highlighting the functionalities, capabilities, and the client's needs.
- Developed using ASP.Net MVC, ensuring optimal functionality, performance, and security features.
- Led continuous testing and quality assurance activities to guarantee high standards of stability and reliability.

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### CharityConnect – Fundraising Platform

October 2024 - April 2025

Client Project - Toronto, Canada

- Designed and developed a secure, user-friendly fundraising application enabling charities to manage campaigns, track donations, and deliver digital rewards.
- Built with ASP.NET MVC and Entity Framework Core (SQLite), applying design patterns for modularity and maintainability.
- Integrated PayPal API for secure payment processing, including fee/tax calculations and automated ebook delivery.
- Conducted testing and quality assurance to ensure application stability and performance.