Abbas Merchant

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Education

University of Waterloo **Expected May 2030**
Bachelor of Software Engineering *Waterloo, ON*

Experience

Invision Custom Solutions Inc. **Apr 2026 – Sep 2026**
Software Developer – Client: Combined Metal Industries (CMI) *Richmond Hill, ON*

- Built and deployed a production React and TypeScript dashboard monitoring live weights for **61 scale-equipped bins** across **20+ customer sites**, ingesting CMI's 60-second scale feed (**∼90K readings/day**) and raising threshold, SLA, and emergency alerts that drive truck dispatch
- Engineered dispatcher workflows for acknowledgment, escalation, truck dispatch, team comments, and role-based access across **3 user roles** and **4 SLA tiers**; added audit logging and CSV reporting, backed by **43 automated tests**
- Built a restart-safe ingestion pipeline that replayed **304K production readings in ∼27 seconds** and quarantined **5 classes of invalid sensor data** to prevent bad readings from triggering dispatch alerts
- Designed and shipped an internal QR asset-tracking app in Microsoft Power Apps backed by SharePoint, letting staff scan assets, validate serial numbers, and log asset movement in real time

Software Developer, Financial Systems – Product: InvisOne **Jun 2025 – Apr 2026**

- Built core accounting and treasury modules for an AI-enabled, multi-entity business management platform spanning **11 modules and 201 submodules**: double-entry ledger postings, accrual and period-close workflows, and trial balance, P&L, balance sheet, and cash flow reporting across **86 report definitions**
- Implemented financial controls: a centralized posting engine used by **31 services**, SHA-256-chained immutable audit trails, and segregation of duties across **1,018 role-based permission scopes** with approval workflows on **77 record types**
- Developed AI-assisted cash and exposure tracking across **31 currencies** with realized and unrealized FX gains and tax handling from **53 country presets**, and built data-integrity controls for AI-driven financial pipelines: CSV import, duplicate detection, and opening-balance loading across **15 record types**

AI Data & Validation **Sep 2024 – Jun 2025**

- Generated and validated **large-scale datasets** for model training and fine-tuning in Python, designing test cases and running error analysis to catch labeling and output defects before they reached training
- Integrated new data sources into **Python ingestion pipelines** with validation and preprocessing logic that reduced pipeline failures

United Canada Inc. **Feb 2024 – Aug 2024**
Part-Time – QA / Software Support *Richmond Hill, ON*

- Tested and debugged e-commerce features, reproducing customer issues from **production logs**; authored and **executed test cases** for the browse, cart, checkout, and payment flows and drove defects to resolution with cross-functional teams

Projects

Multi Agent Manager | *Electron, Node.js, TypeScript, SQLite, Supabase, React Native, C++* | multiagentmanager.app

- Built and **publicly released a Windows desktop app** that unifies ChatGPT, Claude, Gemini, and Copilot sessions across browser, desktop, terminal, and VS Code into one live queue with one-click window focus
- Designed a **cross-source search engine** with local SQLite indexing over every AI conversation, whether it started in a browser tab, desktop app, or terminal
- Implemented real-time agent detection via **Chrome DevTools Protocol and OS accessibility APIs**; shipped **iOS and Android companion apps**

Spotify Lyrics Translator | *JavaScript, Chrome Extensions API, HTML/CSS* | Chrome Web Store

- Launched a Chrome extension that translates non-English Spotify lyrics into English in real time (**350+ downloads**), using translation APIs and **dynamic DOM manipulation** to overlay translations inside the web player

Skills

Languages: C++, C, Python, TypeScript, JavaScript, SQL, HTML/CSS
Frameworks & Platforms: React, React Native (Expo), Node.js, Electron, Tailwind CSS, Chrome Extensions, Supabase (PostgreSQL), SQLite, REST APIs
Tools & Cloud: Git, GitHub Actions, Vercel, Azure, Microsoft Power Apps, SharePoint, AI-assisted development

Relevant Coursework

Software: Programming Principles, Data Abstraction and Implementation, Methods of Software Engineering, Digital Circuits, Foundations of Sequential Programs*, Digital Computers*, Logic and Computation*
Mathematics: Calculus 1–3, Linear Algebra, Honours Algebra, Statistics for Software Engineering* *in progress, Fall 2026