

DAVID GAO

Data Scientist | Applied AI Engineer

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PROFESSIONAL EXPERIENCE

Boba Cafe — Director of Data & Operations

June 2020 – Present | Europe / Remote

- **Staff Scheduling Optimization:** Developed an optimization algorithm in Python to determine the most optimal weekly shift assignments across 10 locations and 50+ staff, balancing employee availability, labor rules, and store coverage—cutting a 2-week manual planning process to under 3 minutes.
- **Databricks Cloud Warehousing & Product Analytics:** Architected an automated data warehouse on Databricks with nightly GitHub Actions pipelines syncing POS transaction feeds; engineered automated reporting pipelines delivering product health and category trends across 100+ menu items, saving 15+ hours/week and guiding 4 seasonal menu updates/year.
- **Full-Stack Cloud ERP & Inventory Automation:** Built a multi-facility inventory web application on Cloudflare Workers and D1 SQL with automated purchase order tracking and Bill-of-Materials (BOM) recipe depletion; end-to-end automation eliminated the need for an inventory coordinator, saving 1 full-time role's worth of labor (~160 hours/month).
- **Financial Automation & Loss Prevention:** Deployed a custom Streamlit payroll application calculating tiered wages and bonuses directly from shift data (saving 30+ manager hours/month); instituted daily POS cash reconciliation with anomaly detection that flagged 3 cash discrepancies for CCTV review, uncovering internal theft.

Cymax Group Technologies — Data Scientist

March 2026 – Present | Toronto, ON (Remote)

- **Autonomous AI Analysis Pipeline:** Architected an end-to-end LLM analysis pipeline equipped with an enterprise data manifest to safely query Gold-layer warehouse tables, using custom analytical skills to automatically generate HTML dashboards and slide decks; built step-by-step human-in-the-loop review gateways, accelerating operational ticket turnaround from 3–5 business days to 3–5 hours (~90% cycle time reduction).
- **Multi-Model Pricing & Margin Engine:** Developed an automated dynamic pricing ML system combining modular regression models predicting price-demand elasticity, return probabilities, cancellation rates, and net profit margins; automated 100% of daily repricing decisions across 400,000+ active SKUs on Amazon, Walmart, and other major marketplaces, eliminating manual pricing intervention while safeguarding profit margins.

Article — Business Analyst

August 2024 – March 2026 | Toronto, ON

- **GenAI Enterprise Intelligence & LLMOps:** Built an AI agent using Databricks Genie enabling 10+ VPs and Senior Directors to query live warehouse data in natural language, slashing ad-hoc insight turnaround from 2–3 days to instant self-serve queries; implemented human-in-the-loop observability using MLflow to track every query and user interaction, systematically auditing failure cases and rolling out continuous schema and prompt improvements to ensure response accuracy.
- **Experimentation & Cost Optimization:** Designed and led an end-to-end A/B test evaluating CGI vs. studio photography; presented statistical findings to executive leadership, saving \$800K+ USD annually in marketing production costs with zero impact on conversion.
- **In-House Cross-Sell Algorithm:** Developed an in-house cross-sell attachment rate algorithm analyzing 4,000+ active SKUs, replacing a third-party vendor to save \$20K+/month (\$240K+ annually) with an automated daily Tableau feed.

Article — Payment Analyst

June 2021 – August 2024 | Toronto, ON

- **Fraud ML Model Training:** Reviewed and labeled 500+ high-risk transactions weekly in Sift Science to train fraud ML models, improving transaction risk classification accuracy and minimizing false-positive order cancellations.
- **Dispute & Chargeback Recovery:** Managed dispute evidence workflows across Stripe, Affirm, and PayPal, achieving a ~70% dispute recovery rate and recouping \$50K–\$100K+ USD annually.

EDUCATION

McGill University, Desautels Faculty of Management

Master of Management in Analytics (MMA)

Montreal, QC

July 2023 – August 2024

University of British Columbia

Bachelor of Management, Concentration in Finance (Honours)

Kelowna, BC

Sept 2015 – June 2019

- 3.7 GPA, Dean's List (first 2 years completed at Fordham University in NYC)

TECHNICAL SKILLS

Applied AI & Machine Learning: LLMs & Multi-Agent Systems, Autonomous Analysis Pipelines, Human-in-the-Loop (HITL), Prompt Engineering, Regression Models, Random Forest, PyTorch, Scikit-Learn, OR-Tools (Optimization Algorithms), Anomaly Detection

Data Engineering & Cloud: Python, SQL, Databricks (SQL Warehouses, Genie, Delta Lake), MLflow, Cloudflare Workers & D1 SQL, MS Azure, GitHub Actions (CI/CD), REST APIs, Git

Analytics & Full-Stack Tooling: React, Vite, Tailwind CSS, Streamlit, Tableau, Power BI, A/B Testing & Hypothesis Testing, Causal Inference, Excel