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Summary

Staff engineer building AI-assisted developer tooling and automations.

I ship prototypes quickly and production code elegantly.

Comfortable operating in high pressure remote-first teams.

Selected Work (high impact)

- **Async AI workflow orchestrator (triage -> implement -> assess):** built a multi-stage automation system that runs steps asynchronously, preserves context across phases, and uses heuristics to decide when to escalate to a human for guidance.
- **AI code reviewer that improves code quality over time:** built an internal review system that evaluates changes against *human-authored guidelines* and uses challenge/verification mechanisms to reduce hallucinations, keeping suggestions actionable and preventing the codebase from “regressing to the mean”.
- **LLM-powered dbt model optimizer with fail-fast validation:** built a tool that proposes SQL optimizations, tests them against sampled datasets to catch issues quickly, and feeds concrete failures back into the LLM to iteratively repair until results reconcile.

Technical Skills

- **Languages:** Python, SQL, Bash, Ruby
- **Infra:** Linux, Docker, networking, NGINX
- **Cloud & Platforms:** GCP, AWS, Cloudflare, Tailscale
- **Data:** dbt, Spark, BigQuery, warehouses at scale
- **AI/LLM systems:** LLM benchmarking, context, tool workflows, guardrails
- **Serving & runtimes:** vLLM, Ollama, llama.cpp
- **Ops & delivery:** CI/CD, observability
- **Microcontrollers:** ESP32s, Raspberry Pis, PCBs

Experience

Shopify - Canada (Remote) (Jul 2019 – Present)

Staff Engineer, Data Warehouse Technology (Sep 2025 – Present)

- Built an **LLM-powered dbt optimization tool** that fails fast on sampled data, validates semantic equivalence, and iterates automatically by feeding execution/validation failures back to the model.
- Improved reliability by adding validation gates for AI-generated changes (language-aware checks, clearer failure states, and safer automation defaults).

Senior Machine Learning Engineer (Dec 2024 – Sep 2025)

- Built an **async AI automation orchestrator** for data engineering workflows using a staged approach (triage -> implement -> assess) with **human-in-the-loop escalation** driven by heuristics and confidence checks.
- Built an **AI code review system** that reviews changes against **human-authored engineering guidelines**, using challenge/verification techniques to reduce hallucinations and making suggestions one-click apply in GitHub.

Senior Analytics Engineer (Feb 2023 – Dec 2024)

- Migrated core warehouse workloads from Spark to dbt on GCP.

- Improved modeling practices, review workflows, and operational consistency across a large shared codebase.

Senior Data Scientist (Jul 2019 – Dec 2021)

- Led a small team delivering forecasting and infrastructure planning recommendations.
- Developed tooling to make load balance recommendations for our core infrastructure.

Parental Leave (Dec 2021 – Feb 2023)

- Learned how to make a small human happy.

CEO & Founder - Memair (Nov 2018 – Jul 2019) - Ottawa, Canada

- Built a personal analytics product end-to-end (backend, frontend, infra, and ops).
- Worked across Rails, Python, GraphQL, React, Flutter, and JavaScript on cloud + self-hosted infrastructure.
- Site: <https://memair.com>

Sailing Sabbatical (Sep 2017 – Sep 2018) - Canada/USA/Bahamas

- Sailing SV Catsaway from Kingston, Ontario, to the Bahamas and back.
- Produced a YouTube series documenting our adventure, honing video communication skills.
- Hacking on a few (mostly boat-related) projects.

Data Engineer - Shopify (Sep 2013 – Sep 2017) - Ottawa, Canada

- Data modeling, reporting, experimentation, and ML support for early Shopify.
- Worked primarily in Python/Ruby with Spark, Presto, and Rails.

Data Specialist - Amnesty International (Mar 2012 – Sep 2013) - Sydney & Ottawa

- Supporter database projects; Rails + SQL; operational reporting and process improvement.

Communications - Australian Army (Jul 2004 – Nov 2012)

- Peacemaking tour in Afghanistan .
- Peacekeeping tour in Solomon Islands .

Instructor • Upward Dog Yoga Centre (Jul 2014 – Mar 2020) - Ottawa, Canada

- Teaching Acroyoga as part of SmileyOm.

Projects & Self-Hosting

- Home lab: servers, Docker workloads, monitoring, backups, and secure remote access.
- Self-hosting (incl. Mastodon) and home automation (Home Assistant / ESP32).

Writing & Speaking

- Speaker: AI Tinkerers Toronto (Nov 2025) and many internal Shopify communications.
- Blog posts.

Open Source & Patents

- Packages (Python/Ruby/npm; mixed recency)
- Patents

Education

Bachelor's Degree - Murdoch University (2008 – 2011, Remote)
Focus: security / terrorism / counter-terrorism

Security Clearance

- Canada: Enhanced Reliability (valid through 2029)
- Australia: Top Secret (lapsed)

Citizenships

Australian
Canadian
Irish (EU)
British

Principles

- Improve the world according to my Codex Vitae.
- Use AI & data to solve interesting problems.
- Lead great teams; keep learning; avoid being the smartest person in the room.

Home Office

Connection:

- 3Gbps fiber Internet
- Ubiquiti networking equipment with ethernet to office
- 5G cellular & 1hr UPS redundancy

Residence: Prince Edward County, Ontario, Canada

- 10mins to co-working spaces
- 15mins to 401 highway
- 15mins to Belleville Via Rail station
- 2hrs to Toronto Pearson International Airport

Timezone: Eastern Standard Time (UTC−05:00)

Workable hours:

- **PST:** 04:00 - 13:30 PST
- **EST:** 07:00 - 16:30 EST
- **UTC:** 12:00 - 21:30 UTC