COLIN GOULD

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PROFESSIONAL & LEADERSHIP EXPERIENCE

RBC Capital Markets **Toronto, Canada**
Software Engineering Intern – Global Equity & Derivatives Tech Team *2024 – 2025*

- Built, deployed and maintained trader-facing .NET applications supporting daily volatility surface fitting and pricing workflows.
- Designed tooling to process millions of pricing session log files in <5 minutes, improving ingestion efficiency by >95%.
- Developed a C++ telemetry SDK to migrate pricing processes away from text-file logging, led onboarding across multiple teams.

QMIND – Queen's Machine Learning Club **Kingston, Canada**
Director of Design *2025 – present*

- Overseeing 20 students across 4 industry projects in healthcare, data and law. Managing hiring, project planning and execution.
- Leading a collaboration with Project X Ltd., a Toronto-based AI consultancy, to develop a multimodal marketing agent.

Queen's Commerce and Engineering Environmental Conference (CEEC) **Kingston, Canada**
Sponsorship Director *2021 – 2024*

- Led sponsorship team. Hit goal of $40,000, up over 33% from previous years, to enable 50% reduction of participation fee.

Camp Wanapitei **Temagami, Canada**
Wilderness Canoe Trip Leader *2023 – Present*

- Led and mentored 12–17-year-olds on month-long wilderness trips; managed risk, safety and decisive action.

TECHNICAL PROJECT HIGHLIGHTS (<u>see all</u>)

Post-Training Research (Engineering Capstone)

- Post-training an SLM to be a grade-school math tutor. Research supported by a $5000 grant from Thinking Machines.

Compile: A Personalized AI News Assistant (<u>Live Site</u>)| *Next.js, Python (DSPy, Stagehand), Supabase, Pinecone*

- Built a full-stack AI platform that processes thousands of articles each day to deliver custom news stories to each user.
- Designed and implemented a custom web-scraping system and an ingestion pipeline with time and theme-aware clustering.
- Developed intelligent RAG pipelines using hybrid search with query expansion, reciprocal rank fusion and reranking stages.

Mantis – Hack The North Finalist for Best Dev Tool (<u>Devpost</u>, <u>PyPI</u>) | *Python (Playwright), Cohere/Gemini APIs*

- Built an AI-powered tool that crawls and manipulates web apps, analyzing each state to detect and describe UI bugs.
- Delivered a dashboard with bug deduplication, and GitHub Actions integration for automated QA after deployment.

Chameleon – Hack AI Winner for Best AI Retrieval (<u>Devpost</u>)| *JavaScript (Next.js), Python (FastAPI, LangGraph), Supabase*

- Built an AI workflow application for content creators that repurposes long-form content into short, platform-optimized posts.
- Orchestrated transcription, socials scraping, and post generation with LangGraph and Gemini.

Mechanistic Interpretability for LLM Jailbreak Defense (<u>Research Paper</u>)| *Python, SAELens, Gradio*

- Research project showing novel applications of mechanistic interpretability and feature steering to LLM jailbreak defense.
- Successfully discovered "refusal" features in Gemma-2-2b-IT and prevented jailbreaking by boosting these features.

EDUCATION

Queen's University – Smith School of Engineering and Applied Science **Kingston, Canada**
B.A.Sc., Applied Mathematics and Computer Engineering, 2026 Candidate *2021 – Present*

- 3.90 GPA, Dean's List Standing (2021 – 2025), Principal's Scholarship for Academic Excellence.

ADDITIONAL INFORMATION & INTERESTS

Programming Languages & Tools: JavaScript (Next, React, Angular, Node, Express, Sequelize), C#/.NET, Python (PyTorch, Flask, FastAPI, LangGraph), C/C++, SQL, Dev Tools (Git/Github, Jenkins, Supabase, Pinecone, Vercel, Temporal)

Canoe Tripping: Adventure canoe tripping enthusiast, including a 1200km, 52-day trip through the NWT and Nunavut.