MICHAEL CRONIN

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EDUCATION

Queen's University, Faculty of Engineering; Applied Mathematics and Computer Engineering **Class of 2026**

- Bachelor of Applied Science, Engineering – 4.18/4.30 GPA
- Relevant Coursework: Data Structures, Algorithms, Object-Oriented Programming, Databases, Software Development

Upper Canada College, Toronto, ON **Class of 2021**

- International Baccalaureate Diploma – 42 / 45 points, Ontario Secondary School Diploma – 98.8% Average

RELEVANT EXPERIENCE

Data Engineering & Analytics Intern, Celestica **2024 - 2025**

- Re-architected the team's database schema, cutting refresh latency by 70% and enabling near real-time supply chain KPIs
- Automated pipelines with Python/JS & Google APIs, removing manual steps and unlocking new data sources for the team
- Built and maintained 100+ self-service PowerBI dashboards, surfacing predictive trends for executives and ML pilots

Undergraduate Researcher, Queen's University, Mathematics and Statistics Department **2023**

- Developed a Lyapunov-based framework for event-triggered control on arbitrary time scales, proving two-measure input-to-state stability theorems that unify continues and discrete-time systems and guide energy-efficient controller design
- Selected to receive an NSERC Undergraduate Research Award, valued at $6000+, to support the research

Teaching Assistant, Queen's University, APSC 174 Linear Algebra **2023**

- Prepared and taught weekly live tutorials, aiding with understanding and answering general questions

Director of Design, Queen's Engineering Society **2022 - 2023**

- Directed 20 ratified engineering design teams (≤200 members each), steering strategy, funding, and cross-team collaboration

PERSONAL PROJECTS

Compile – AI-News Intelligence Platform **2025**

- Architected a self-healing Crawl4AI agent that auto-generates schemas for unseen article layouts, scrapes 500+ news pieces/day into Supabase and Pinecone, and exposes a real-time API for downstream applications
- Designed a semantic-clustering algorithm that groups related articles into "stories" and summarizes them using Gemini-2.5
- Developed a React + Next.js front-end where users set what topics they see and how stories are rendered – rewriting articles to tone/length preferences – complete with embedding-driven "For-You" feeds, semantic search, and recommendations

Chameleon, HackAI Toronto **2025**

- Built *Chameleon* in a 24-hour HackAI sprint, winning "Best AI Retrieval" for transforming long-form videos/blogs into creator-styled promotional X/LinkedIn posts in under 3 minutes, saving content creators hours each week.
- Engineered a LangGraph-Gemini retrieval agent with a FastAPI backend and Next.js frontend, deployed on Vercel/Supabase

LLM Jailbreak Defense Research Project, QMIND **2024 - 2025**

- Developed a framework to improve refusal rates for LLM jailbreaking methods while maintaining performance through analyzing the model's activations to find relevant groups of neurons (features), then boosting/suppressing these features
- Co-wrote a paper published at CUCAI (Canadian Undergraduate Conference on Artificial Intelligence)

Neural Network Crossword Clue Solver **2024**

- Built and trained a recurrent neural network to predict crossword answers given clues, deployed as a Chrome extension
- Used Tensorflow and Keras to transfer learning from RoBERTa, retraining with 750,000 data points scraped from the web

SELECT AWARDS & SCHOLARSHIPS

- Nellie & Ralph Jeffery Award in Maths [$23,400] (2024)
- Science '22 Scholarship [$1,900] (2024)
- Undergraduate Research Award [$6,000] (2023)
- First Place – Queen's Engineering Competition (2023)
- W.P. Wilgar Memorial Scholarship [$1,000] (2022)
- Opportunities Entrance Scholarship [$5,750] (2021)

INTERESTS

- **Active Volunteer –** Held five volunteer positions with Queen's EngSoc, including running Orientation Week, overseeing all design teams, and more. Selected as the student who has contributed to the most extra-curricular activity in my year
- **Outdoors Enthusiast –** Led numerous multi-day canoe trips, completed a 26-day white-water canoe trip, paddled > 800km, certified ORCKA canoe instructor; avid downhill skier with instructing/racing experience; experienced tennis instructor
- **Volleyball Player –** Co-captain of Leaside volleyball, a top 8 team in Canada, and continue to casually play 3+ times a week

KEY SKILLS

Python – Java – C – C++ – JavaScript – MATLAB – SQL – Web Development – Tensorflow – React – TypeScript – PowerBI