

Krish Tiwari

Software Engineering Co-op Student

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ACADEMIC & CO-OP STATUS

Computer Engineering Software Option BSc Co-op, University of Alberta

Class of 2029

Completed Academic Terms: 4 of 8

Available: January–August 2027 (8-month) or January–April 2027 (4-month)

Willing to Relocate

PROFESSIONAL SUMMARY

Computer Engineering student who builds and evaluates software systems end to end. Designed an agentic LLM grading pipeline with a purpose-built evaluation harness, running a six-configuration ablation study that reversed my own initial architecture on the evidence. Also delivered production automation and hybrid identity administration for a Schedule 1 Canadian bank. Comfortable in Python and TypeScript, and equally comfortable writing the test harness that proves whether the design actually works.

TECHNICAL SKILLS

Languages: Python, TypeScript, JavaScript, Java, C++, SQL, Bash, PowerShell

Frameworks & Tools: React, Node.js, Astro, Pydantic, Anthropic Claude API, Ansible, Git, Linux/Unix

Cloud & Systems: Google Cloud Platform, Active Directory & Azure AD (Entra), Microsoft 365, Intune

Practices: Agile/Scrum, SDLC, evaluation-driven development, root cause analysis, documentation

TECHNICAL PROJECTS

Mini Calc TA | Python, Anthropic Claude API, Pydantic, YAML | 2026

github.com/KoolAidKrish/mini-calc-TA

- Built an agentic grading pipeline that verifies each step of a student's calculus solution in isolation, locates the first incorrect step, and assigns partial credit; per-step isolation prevents the model from anchoring on the final answer and retroactively justifying wrong reasoning.
- Designed a frozen 12-case eval harness and deterministic scorer before writing agent code, then ran a six-configuration ablation at 4–5 independent trials each; final architecture cut grading error 40% against a single-prompt baseline (MAE 0.87 → 0.52) at 97% first-error-location accuracy.
- Reversed the shipped architecture after repeat trials showed the original design's error range fully overlapped the baseline's (Mann-Whitney U, $p \approx 0.008$ for the replacement); diagnosed a silent token-truncation failure producing plausible-looking garbage scores with no error raised.

MIME (Make It More Efficient) | Python, Pydantic, Anthropic Claude API | 2026

github.com/KoolAidKrish/mini-calc-TA

- Built a document-processing system that infers a report template from a single example document, extracts facts across 50+ PDFs, and composes standardized, source-cited memos.
- Engineered a capability-aware provider abstraction so hosted and self-hosted models are interchangeable behind one interface, with deterministic gap detection and code-computed financials keeping output auditable rather than model-asserted.
- Cut input tokens over 10x and cost per document over 40x versus a naive full-context approach.

Tuition Forecasting & Financial Planning Application | Python, SQL, Matplotlib | 2025

github.com/KoolAidKrish/Tuition-Calculator

- Built a predictive model for multi-year tuition forecasting, validated against 10+ years of historical university data to within $\pm 5\%$ variance.
- Implemented spending-pattern analysis that generates personalized savings strategies, surfaced through Matplotlib dashboards

RELEVANT EXPERIENCE

IT Support Co-op, Enterprise Computing Services

General Bank of Canada (Schedule 1 Bank) | Edmonton, AB

Summer 2026 (4 months)

- Wrote and maintained Ansible playbooks for configuration management and built automation scripts that eliminated recurring manual work across the support queue.
- Redesigned the helpdesk onboarding and offboarding workflow, and administered 130+ user accounts across hybrid on-premises Active Directory and Azure AD (Entra).
- Resolved 500+ hardware, software, and account tickets while holding SLA adherence above 95% under ITIL incident management.
- Worked within change management and security compliance standards for a regulated financial institution.

Primary Developer, 2nd Place Overall

Mechatronics Showdown Robotics Competition | Edmonton, Alberta

2024

- Built and shipped a working robotics solution on a 24-hour deadline in a four-person agile team, learning the Arduino framework from scratch during the event.
- Authored the technical design and sub-routine specifications for multiple challenge requirements; scored 9.7/10 for code quality and documentation.

RELEVANT COURSEWORK

CMPUT 275 - Foundations of Computation II (algorithms, data structures, C++)

CMPUT 274 - Foundations of Computation I (Python, Linux)

CMPUT 272 - Formal Systems & Logic

ECE 325 - Object-Oriented Software Design (in progress)

ECE 311 - Computer Organization & Architecture (in progress)

ECE 212 - Introduction to Microprocessors

ECE 210 - Digital Logic Design