

Henri Cerio-Cain

Halifax, NS | (437) 431-9078 | henriceriocain@dal.ca | henriceriocain.ca | linkedin.com/in/henriceriocain | github.com/henriceriocain

EDUCATION

Dalhousie University

Halifax, NS

Bachelor of Computer Science

Expected Sep 2026

Relevant Coursework: Data Structures, Software Engineering, Operating Systems, Algorithms

Member, Dalhousie Computer Science Society

SKILLS

- **Languages & Frameworks:** TypeScript, JavaScript, React, React Native, Python, Java, C, SQL, HTML/CSS, FastAPI, Android (Java, Kotlin, XML, MVVM)
- **Machine Learning & Data:** PyTorch, TensorFlow/Keras, Hugging Face Transformers, OCR (Tesseract), Model Fine-Tuning (LoRA/QLoRA), GPU Optimization (FP16/TF32, mixed precision)
- **Tools & Platforms:** Firebase, Git, GitLab CI/CD, Android Studio, Google Colab, Cloudflare, Uvicorn
- **Practices:** Test-Driven Development (TDD), Domain-Driven Design (DDD), Clean Architecture

PROJECTS

Domyn

Founder & Developer

Jan 2025 – Present

- Developed a full-stack React Native fitness app with custom UI/UX, offline-first Firebase integration, and real-time workout tracking using multi-level state synchronization, live timers, and optimistic UI updates.
- Engineered a type-safe constants and backend architecture eliminating 50+ hardcoded strings, enabling scalable, maintainable Firebase operations across 50+ components.

Document Routing with an RNN

Personal Project

Sep 2025 – Oct 2025

- Built an OCR-to-text document classification pipeline using Tesseract and a BiLSTM network trained on the RVL-CDIP dataset, achieving ~83% test accuracy across four document types (letter, form, email, invoice).
- Implemented text pipeline with Keras TextVectorization (20K vocab, 300-token sequences) and a real-time predict function that returns class + confidence for unseen scanned pages.

DalTutor

Personal Project

May 2025 – Sep 2025

- Rebuilt an Android tutoring marketplace (Java/Kotlin, MVVM, Firebase) with real-time availability, secure registration, and tutor tools integrated with Google Maps search and PayPal checkout.
- Implemented community features and CI-tested moderation tools on Firebase RTDB/FCM using atomic multi-path writes and role-based Security Rules for reliable, conflict-free collaboration.

HenriAI

Personal Project

Dec 2024 – Aug 2025

- Fine-tuned a 6B-parameter GPT-J model using LoRA adapters and 4-bit QLoRA on a single A100 GPU, cutting memory usage by ~75% while adapting it to custom conversational datasets.
- Deployed a FastAPI + Uvicorn inference server with authentication and Cloudflare tunneling for real-time text generation at henriai.ca, integrating optimized PyTorch training via gradient checkpointing and AdamW.

ADDITIONAL

Languages: French and English (fluent), Cebuano (intermediate)

Certifications: New Brunswick French Oral Proficiency – Advanced

Portfolio: Project walkthrough videos available at henriceriocain.ca