Henri Cerio-Cain

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EDUCATION

Dalhousie University *Halifax, NS*
Bachelor of Computer Science Expected Sep 2027
Relevant Coursework: Data Structures, Software Engineering, Operating Systems and Algorithms.
Member, Dalhousie Computer Science Society.

SKILLS

- **Languages & Frameworks:** TypeScript, JavaScript, React Native, Python, Java, C, HTML/CSS, SQL.
- **Tools & Platforms:** Firebase, Git, GitLab CI/CD, Android Studio.
- **Practices:** Test-Driven Development (TDD), Domain-Driven Design (DDD), Clean Architecture, CI/CD.

UNIVERSITY PROJECTS

Domyn (Mid Development)
Personal Project, Founder Jun 2025

- Engineered a scalable React Native fitness platform, structuring 40K+ lines of TypeScript across 193 modular files via clean architecture and domain-driven design; eliminated code duplication with 44+ custom hooks handling dynamic business logic.
- Built a real-time Firebase synchronization system managing 20+ collections with 99.9% data consistency using atomic batch operations, query optimization, custom query builders, automatic retry, and user-friendly error handling.
- Achieved sub-200ms response times and 95% cache hit rates by implementing advanced caching, debouncing, batching, and full observability, including P50/P95/P99 metrics, transaction tracking, real-time alerting, and network/render instrumentation.

Dal Tutor
Software Engineering, Dalhousie University Apr 2025

- Developed an Android tutoring marketplace application using Java, Firebase, and Google Maps API that connected students with tutors through an integrated location-based search system in a group of five.
- Implemented complete authentication workflow with role-based access (student/tutor), integrated PayPal payment processing for tutorial bookings with transaction history tracking.
- Applied Test-Driven Development with JUnit, Espresso and UI Automator while maintaining CI/CD pipeline through GitLab, ensuring over 80% test coverage.

HenriAI
Personal Project Dec 2024

- Engineered and implemented a fine-tuned GPT-J-6B language model using QLoRA techniques, reducing model memory footprint by > 50% through 4-bit quantization while maintaining model performance, enabling training on consumer-grade GPUs.
- Optimized training pipeline performance by implementing gradient accumulation with a batch size of 28, mixed precision training, and cosine annealing learning rate schedule, achieving stable training convergence across five epochs with a learning rate of 3e-4.

ADDITIONAL

Languages: Fluent in French and English with elementary proficiency in Cebuano.
Certifications & Training:

- New-Brunswick Certificate of Oral Proficiency French as a Second Language: Advanced**.**
- Passed LinkedIn Skill Assessments in Java, Front-End Development, CSS, JavaScript and HTML.