

Callum MacLeod

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WORK EXPERIENCE

Intermediate Software Engineer

Kahi.io (Hybrid)

April 2025 - Present

- Backend lead for Ruby on Rails platform development, planning and delivering features across core services while contributing across Vue, React, and Swift (iOS).
- Owned major improvements to a real-time IoT ETL pipeline ingesting 2M+ events/hour, increasing reliability and throughput.
- Strong focus on DevOps: implemented end-to-end testing in CI and reduced local test runtime from 15+ minutes to 1m30s.
- Managed AWS infrastructure, leading cost optimization work that reduced spend by 33%, while maintaining SOC2 compliance across the stack.
- Worked with AI orchestration across multiple workflows and integrations.

Open Source Contributor

Volunteer

2025 - Present

- Contributed to open source projects including GitLab and TigerData, focusing on backend improvements, bug fixes, and developer tooling.
- Worked across Ruby and related ecosystems, contributing to real-world production codebases and collaborating through standard OSS workflows (issues, PRs, reviews).

Software Developer

Igniter Tickets (Remote)

May 2023 - April 2025

- Full stack development of a white-label ticketing platform using Ruby on Rails, contributing across core features in an agile environment. Managed infrastructure using Terraform and supported GCP deployments.
- Delivered key features including Google Wallet integration, 2FA, RBAC system, and Elasticsearch-powered search, improving platform reliability and user experience.
- Reduced container cold start times from minutes to seconds, eliminating a major source of user-facing timeouts and improving system responsiveness.
- Improved ETL and background processing workflows supporting large-scale event and ticket data synchronization.

Online Course Facilitator - Cloud Development

Algonquin College

September 2023 - Present

- Built and maintained a self-directed cloud development course with hands-on labs.
- Supported students, graded work, and kept course delivery running smoothly.

Software Developer Co-op

Barracuda Networks

April 2021 - August 2022

- Full stack development of a remote monitoring platform using C#.NET within an agile team environment.
- Built a console-based automated testing tool integrated into the product suite, improving internal testing workflows.
- Performed security analysis with Black Duck, identifying and patching 10+ vulnerabilities to improve system security posture.

Automation Engineer Co-op

Nokia

April 2020 - December 2020

- Developed automated test cases in TCL at data link and network layers.
- Created test plans achieving 95%+ coverage across features.
- Monitored nightly regressions across platforms and debugged failures.

PROJECTS

- **Full Stack POS System (Ruby on Rails, Hotwire)** — High-performance POS system with offline support via WASM + Svelte. GitHub
- **AI Flashcard Application (Ruby on Rails)** — AI-driven flashcard and Q&A system for rulebooks using structured retrieval workflows. Developed RAG and MCP based tools to enhance agent functionality. GitHub
- **Agent Based Traffic Simulation (Python)** — Scalable simulation of traffic using independent driver agents with PyGame visualization.

TECHNICAL SKILLS

- **Languages:** Ruby, Java, JavaScript/TypeScript, Python, C/C++/C#, HTML, CSS
- **Frameworks & Tools:** Ruby on Rails, React, Vue, Node, .NET, Spring, Terraform, Docker, Git, TailwindCSS, OpenAPI
- **Data & Infra:** PostgreSQL, MySQL, SQLite, Redis, Elasticsearch, OpenSearch, AWS, GCP
- **Other:** API development, CI/CD, multi-threading, Linux/Unix, OAuth, RSpec, Sidekiq

EDUCATION

Carleton University

Bachelor of Computer Science, Focus in Software Engineering (3.9/4.0)

Ottawa, Ontario

September 2018 - April 2023