

Andre Arcaina

 andrearcaina

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 andrearcaina.vercel.app

Technical Skills

Languages: Go, Python, Java, C, C++, JavaScript, TypeScript, SQL, GraphQL, Bash

Tools & Infrastructure: GCP, AWS, Docker, Kubernetes, NATS, RabbitMQ, Postgres, Redis, MongoDB, GitHub Actions

Frameworks: FastAPI, Django, React.js, Next.js, Spring Boot, gRPC

Work Experience

Environment and Climate Change Canada (ECCC)

Software Engineer Intern

June 2025 – Present

North York, ON

- Reduced workflow triage and debugging time by 80% by developing a Go-based control plane with an SSE observability stream, eliminating manual log searches and providing real-time file state tracking.
- Accelerated onboarding for a 3-person team by reverse-engineering an undocumented C++ system, mapping its core structure to provide a clear, easy-to-follow blueprint for future development.
- Modernized internal R&D tooling by replacing a legacy VB6 application with a structured Python/PyQt GUI, implementing Graylog compatible structured logging and secure psycopg SQL queries to process 50,000+ row product datasets.
- Standardized 8 legacy enterprise Java components to Java 17 and Jakarta EE 10, resolving over 300 compiler warnings and replacing deprecated APIs during the migration.

Undergraduate Science Society of TMU (USSTM)

Backend Engineer

Jan 2025 – Present

Toronto, ON

- Engineered a contract-first backend API in Go powering platform services for the undergraduate science student body, leveraging SQLc for type safety and OpenAPI to enforce strict definitions across 32+ endpoints.
- Built S3-based image storage with presigned URLs to support secure, horizontally scalable before and after item image uploads.
- Implemented a Redis-backed Asynq worker to asynchronously process queued email jobs and deliver notifications via AWS SES.
- Developed 37+ unit/integration tests achieving 85%+ code coverage, preventing regressions in core business logic.

DataKinetics

Software Engineer Intern

May 2024 – Aug 2024

Ottawa, ON

- Engineered Spring Boot REST APIs bridging legacy mainframe systems with modern web applications, automating COBOL-to-JSON transformations for 10+ enterprise clients.
- Built an interactive data inspection dashboard using jQuery and DataTables, enabling non-technical stakeholders to explore complex copybook structures without manual parsing.
- Designed comprehensive Postman test suites achieving 70%+ code coverage across all mainframe REST API systems.

Projects

Fafnir, Distributed Paper Trading Platform | Go, gRPC, Docker, Kubernetes, NATS, PostgreSQL, Redis GitHub

- Architected a distributed trading simulation in Go using GraphQL, gRPC and NATS JetStream, coordinating 8+ microservices to sustain 1,600+ RPS across 5,000 concurrent users with 0% failure (P95: 42ms, Avg: 7ms).
- Orchestrated production-grade networking using Kubernetes and Helm, integrating a full observability stack with Prometheus, Loki, and Grafana, enabling real-time visualization of RPC latency, error rates, and distributed logs across all services.
- Reduced external market data latency by 98% (~800ms to ~10ms) by implementing request coalescing and tiered Redis caching to handle high-frequency data spikes.

ShopEcho, Agentic AI Merchant Platform | Shopify (Remix, Polaris), Python, FastAPI

GitHub | Devpost

- Built an autonomous Shopify app using Remix and Polaris that integrates AI-powered brand agents into the Shopify admin, winning two sponsored awards at UofTHacks 2026 (TwelveLabs – 3rd Place, Backboard.io – Runner-Up).
- Orchestrated concurrent workflows combining multimodal AI (TwelveLabs video understanding) and LLMs (Gemini/Opus) to autonomously generate brand-safe marketing assets from raw footage.

Education

Toronto Metropolitan University (TMU, formerly Ryerson University)

Sept 2022 – Present

Bachelor of Science (Honours), Computer Science (Co-op)

Toronto, ON

Relevant Coursework: Data Structures and Algorithms, Database Systems, Computer Networks, Operating Systems, Software Engineering, Software Project Management, UNIX, Object Oriented Programming, Web Applications