



Andre Arcaina

 andrearcaina  andrearcaina  andrearcaina.vercel.app

Technical Skills

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

Frameworks/Libraries: Chi, Gin, SQLc, Flask, FastAPI, Django, SQLAlchemy, PyQt, Spring Boot, React.js/Next.js

Tools: Git, Jenkins, Docker, Kubernetes, GCP, AWS, NATS, RabbitMQ, PostgreSQL, MongoDB, Redis, Elasticsearch

Concepts: Microservices, Distributed Systems, Event-Driven Architecture, REST APIs, gRPC, OpenAPI, ACID, CI/CD

Work Experience

Environment and Climate Change Canada (ECCC)

June 2025 – Present

Software Engineer Intern

North York, ON

- Rebuilt 2+ legacy VB6 tools using Python and PyQt, integrating the team's standard logging framework to make debugging and auditing significantly faster.
- Secured database operations by implementing parameterized SQL queries with psycopg, preventing SQL injection attacks and improving performance for iceberg dataset validation.
- Analyzed, modified and documented a legacy C++ pipeline for satellite data (SAR), mapping out the decoding and calibration steps to guide the system's modernization.
- Modernized 8+ Java 1.8 modules to Jakarta EE 10, refactoring 5,000+ LOC and resolving 1,200+ compiler warnings.

Undergraduate Science Society of TMU (USSTM)

Jan 2025 – Present

Backend API Engineer

Toronto, ON

- Engineered a contract-first backend in Go managing 3 PostgreSQL schemas, utilizing SQLc for type-safe data access and OpenAPI to enforce strict interface definitions across 32+ API endpoints.
- Developed 37+ unit, mock, and integration tests to ensure reliability in business logic, reducing manual testing.
- Implemented a low-latency, asynchronous distributed task queue using Redis and async to handle authentication and email notifications via AWS SES.

DataKinetics

May 2024 – Aug 2024

Software Engineer Intern

Ottawa, ON

- Developed Spring Boot APIs that automated COBOL-to-JSON conversions, improving data interoperability.
- Built front-end visualization features with DataTables and jQuery for uploaded copybooks.
- Designed comprehensive Postman API test suites to validate endpoints and streamline QA workflows.

Projects

Fafnir, Distributed Stock Engine | Go, Docker, K8s, NATS, PostgreSQL, Redis, Locust

GitHub

- Architected a microservices-based trading platform mirroring real-world financial infrastructure, utilizing Go, gRPC, and NATS for asynchronous event and high-performance inter-service communication.
- Validated horizontal scalability via load testing, sustaining 500 RPS across 1,000 concurrent users with 0% failure rate.
- Eliminated cache stampedes and reduced external Financial Modelling Prep API latency by 99% (790ms → 10ms) via request coalescing and tiered Redis caching strategies.
- Migrated infrastructure from Docker Compose to a 3-node Kubernetes cluster, configuring service discovery, load balancing, and namespace isolation to emulate a production-grade environment using Minikube.

Pathfinder | Go, Concurrency (Goroutines/Channels), Cobra, Lipgloss

GitHub

- Engineered a high-performance static analysis CLI capable of scanning monorepos with 50,000+ files in <3 seconds.
- Implemented a concurrent worker pool architecture to maximize throughput, utilizing Go channels for non-blocking inter-process communication.
- Designed a dual-pipeline system to parallelize I/O-bound (file reading) and CPU-bound (parsing) tasks, achieving >250% CPU utilization on multi-core processors.

Education

Toronto Metropolitan University (TMU, formerly Ryerson University)

Sept 2022 – Present

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

Toronto, ON

Involvements: Backend Lead @ PACS, Backend Engineer @ USSTM, Web Developer @ TMUCSA

Relevant Coursework: Data Structures, Algorithms, Operating Systems I, Database Systems I, Computer Networks I