Andre Arcaina

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Technical Skills

Languages: Go, Python, Java, C, C++, JavaScript, TypeScript, SQL, GraphQL, Bash
Tools & Infrastructure: GCP, AWS, Docker, Kubernetes, NATS, RabbitMQ, Postgres, Redis, MongoDB
Frameworks: FastAPI, Django, React.js, Next.js, Spring Boot, gRPC

Work Experience

Environment and Climate Change Canada (ECCC)   June 2025 – Present
Software Engineer Intern   *North York, ON*

- Led a 3-person team to reverse-engineer a legacy C++ SAR decoding microservice, producing UML and architectural diagrams to document system design, reducing analysis and planning time for spatial processing modifications by 30%.
- Led a Python/PyQt replacement for legacy VB6 tooling, integrating structured logging to reduce debugging time for mission-critical audit workflows from hours to minutes.
- Optimized validation of multiple product datasets (50,000+ rows) by implementing parameterized SQL queries in applications, eliminating SQL injection risks and reducing overall query latency by 30%.
- Refactored 3,000+ lines of code across 8 Java modules to Jakarta EE 10, resolving technical debt and reducing build warnings to improve long-term maintainability.

Undergraduate Science Society of TMU (USSTM)   Jan 2025 – Present
Backend Engineer   *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.
- Designed an asynchronous distributed task queue using Redis and Asynq to decouple email and authentication workloads, supporting platform-wide usage while maintaining sub-50ms response times.
- Developed 37+ unit/integration tests achieving 85%+ code coverage, preventing regressions in core business logic.

DataKinetics   May 2024 – Aug 2024
Software Engineer Intern   *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 Investments Platform | Go, Docker, Kubernetes, Helm, NATS, PostgreSQL, Redis   GitHub

- Architected a high-frequency trading platform using Go, gRPC, and NATS JetStream via Kubernetes and Helm, sustaining 1,604 RPS across 5,000 concurrent simulated users with 0% failure rate.
- Implemented a full observability pipeline utilizing Prometheus, Loki and Grafana, enabling real-time visualization of RPC latency, error rates, and distributed logs across 6+ microservices.
- Reduced external API latency by 99% (790ms to 10ms) through request coalescing and tiered Redis caching, improving system responsiveness and reliability.

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 undestanding) 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, UNIX, Object Oriented Programming, Artificial Intelligence, Data Mining