Andre Arcaina

Software Engineer | Full Stack Developer

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EXPERIENCE

ENVIRONMENT AND CLIMATE CHANGE CANADA | SOFTWARE ENGINEER INTERN
June 2025 - Present | North York, ON

- ➔ Prototyped a **Go**-based command line interface to analyze **20+ codebases** for **code composition, language breakdown, dependencies,** and **Git** information.
- ➔ Expanded the prototype into a dashboard using **Next.js** and **Supabase**.
- ➔ Migrated **5,000+ lines** of Java code from `javax.*` to `jakarta.*`, **refactoring deprecated APIs** to comply with Jakarta EE 10 and modern web standards.
- ➔ Modernized legacy web apps from **JSF 2.2** to **Jakarta Faces 4.0** and **PrimeFaces**.
- ➔ Reduced **Apache Tomcat build time by 33%** by migrating from **Ivy** to **Maven**.
- ➔ Enhanced an **automated data migration pipeline** using **Python** and **GDAL** to move spatial data from **Oracle Spatial** to **PostGIS**, speeding up the process by **40%**.
- ➔ Refactored **2+ production** geospatial mapping tools using **C#, .NET,** and **ArcGIS**.

UNDERGRADUATE SCIENCE SOCIETY OF TMU | BACKEND ENGINEER
January 2025 - Present | Toronto, ON

- ➔ Developed and maintained **6+ CRUD API endpoints** for **users** and **items** databases, following **CLEAN architecture principles** for modular code.
- ➔ Added **15+ units** and **integration test cases**, increasing test coverage by **75%**.
- ➔ Utilized **SQLc** for type-safe, efficient database queries and configured **OpenAPI (Swagger) schema** files to **auto-generate Go server code** using code generation tools, improving development speed and API consistency.

DATAKINETICS | SOFTWARE ENGINEER INTERN
May 2024 - Aug 2024 | Ottawa, ON

- ➔ Built an MVP using **Java** and **Spring Boot** to convert **COBOL copybooks** to **JSON**.
- ➔ Enabled users to upload copybooks and visualize with **DataTables** and **jQuery**.
- ➔ Developed and documented a **Postman test suite** of company APIs.

PROJECTS

FAFNIR | GO, .NET, SPRING BOOT, FASTAPI, NEXT.JS, POSTGRESQL, GCP, DOCKER, KUBERNETES
GitHub

- ➔ Architected a **multi-language (Go, C#, Java, Python) modular microservice backend** and a **TypeScript/Next.js frontend** for a trading platform application.
- ➔ Developed a custom security service behind a **GraphQL API Gateway** for role-based authorization, and an auth service issuing **JWT** and **CSRF tokens** via **HttpOnly cookies** for frontend authentication.
- ➔ Used **gRPC and protocol buffers** for efficient, type-safe interservice communication, enabling scalable and performant microservice interactions.
- ➔ Implemented monitoring and observability with **Prometheus** and **Grafana**.

VIVID FITNESS | PYTHON, JAVASCRIPT, DJANGO, NEXT.JS, TAILWINDCSS, SUPABASE
GitHub

- ➔ Implemented **role-based JWT authentication** with **HttpOnly cookies** and fine-grained permissions using **Django REST Framework**.
- ➔ Designed a real-time chat system using **Django Channels,** and **WebSockets**.
- ➔ Received a **perfect project grade**, resulting in a **4.33 course average**.

SKILLS

LANGUAGES
Go • Java • Python • C# • JavaScript • TypeScript • SQL

FRAMEWORKS
Spring Boot • Flask • FastAPI • Django • .NET • React/Next.js

LIBRARIES
JPA • Hibernate • SQLAlchemy • OpenCV • Entity Framework • GDAL • ArcGIS SDK

TOOLS
Docker • Kubernetes • GCP • Vercel • GraphQL • NeonDB • MongoDB • PostgreSQL • UNIX/Linux • JetBrains IDEs

CONCEPTS
Microservices • REST/gRPC APIs • CI/CD • Agile/Scrum • System Design • Object Oriented Programming

EDUCATION

TORONTO METROPOLITAN UNIVERSITY (FORMERLY RYERSON UNIVERSITY)
COMPUTER SCIENCE CO-OP - BSC (HONS)
Sept 2022 – Present | Toronto, ON
CGPA: 3.70 / 4.33 (3.6 / 4.0)

INVOLVEMENTS
Backend Lead @ PACS
Backend Engineer @ USSTM
Web Developer @ TMUCSA

COURSEWORK

UNDERGRADUATE
Database Systems I • Operating Systems I • Discrete Structures • Data Structures • Algorithms • Intro to Software Engineering • Computer Security I • Computer Networks I