Felix Xie

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EDUCATION

University of Waterloo   Waterloo, CAN
Bachelor's of Computer Science and Financial Management   Sept 2022 - April 2026
Minor in Computational Mathematics   **3.9/4.0 GPA**
CFM Entrance Scholarship and *President's Scholarship Recipient* ($6000)

SKILLS

Languages:	Python, Java, JavaScript, TypeScript, C++, C, C#, Ruby, R, SQL, GraphQL
Frameworks/Tools:	NodeJS, Flask, FastAPI, .NET, React, Angular, CMake, Boost, Rails
Database:	MySQL, Elasticsearch, MariaDB, MongoDB/NoSQL, Redis
DevOps:	Docker, K8s, Azure, AWS, GCP, Jenkins, Kafka, Terraform, Linux, Github Actions

EXPERIENCE

Shopify   Toronto, CAN
Software Engineer - Backend   September 2024 - December 2024

- Developed a Rails **geolocation service** and refactored Action View components for the Shopify portal.
- Improved Kafka topic processing and erasure job SQL query generation to support **BigQuery table redactions indexed by cookie IDs**, increasing PII erasure coverage from **22% to 100%**.
- Provisioned **GCP Dataplex resources** with Terraform and implemented a Rake task in GitHub Actions to synchronize and standardize SQL table metadata and schemas **across 250+ applications**.
- Built a pipeline failure notifier job in Ruby with GitHub issues and Slackbot integration, **cutting SEV-3 incident response times across 78 services** and improving observability.

Sparklease   Toronto, CAN
Full Stack Developer - Core   January 2024 - August 2024

- Architected and implemented a C# **Redis caching layer** for microservices, integrated with an edge CDN and Azure Blob Storage, optimizing API response times from **1.5s to 0.3s** for high-traffic services.
- Engineered a payment and subscription gateway using ASP.NET Core MVC and Stripe webhooks, processing **$30k/month**, as well as an **analytics dashboard** to boost financial reporting efficiency.
- Spearheaded a **100% codebase migration** from .NET Core 2.0 to 6.0, improving performance and package compatibility.

RBC   Toronto, CAN
Software Engineer - Security Infrastructure   May 2023 - August 2023

- Built and deployed a containerized **service update anomaly job** for Azure/AWS cloud services with Python using machine learning and web scraping, resulting in over **$7000 saved** per service reviewed.
- Established **CI/CD pipelines** with Jenkins on AKS integrated with **10+ control tools** and configured **Kubernetes clusters** for security and policy compliance.
- Implemented robust **Terraform IaC** for Azure AKS clusters, enabling egress to secure OpenAI instances and saving developer hours.

RBC   Toronto, CAN
Software Engineer - Developer Tools   July 2022 - August 2022

- Collaborated with 2 teams in an Agile environment to develop an internal application that allows **9000 RBC employees** to view and contribute to enterprise open source projects.
- Enhanced **UI/UX** via SCSS data themes and created **over 20 Angular components** using NgRx.
- Optimized a backend data pipeline by integrating an **Elasticsearch engine** web crawler as a FastAPI service, utilizing multithreading to accelerate load times by **up to 500%**.

PROJECTS

ASCII Game Engine ⬈ *C++*

- Architected a 2D game engine in C++, adhering to **MVC** architecture and **SOLID principles**; incorporated **advanced design patterns** for efficient core and object management.
- Features cross-platform console-based rendering, event-driven input, collision detection, dynamic world state with multi-layered rendering, and frame-based animation, all powered by ncurses.