

Andrew Guo

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Education

Carleton University

Ottawa, Ontario

Honours Bachelor of Computer Science

June 2025

- University Medal in the Faculty of Science, Scotiabank International Exchange Award, Dean's Honour List
- CGPA: 12.0/12.0 (A+)
- Relevant Coursework: Data Structures & Algorithms, Operating Systems, RTOS, Cryptography

Experience

Junior Data Scientist

Ottawa, Ontario

Public Health Agency of Canada

May 2024 – Aug 2024

- Developed a data pipeline in Databricks and Azure to generate and store embeddings of academic publications for LLM-assisted epidemiological literature review

Junior Full Stack Developer

Ottawa, Ontario

Public Health Agency of Canada

May 2023 – Apr 2024

- Architected CI/CD pipeline with GCP, GitHub, and Docker to automate deployment of highly available workloads in Kubernetes for production
- Configured DNS zones, VPC networking, container registries, and cross-regional managed databases across multiple GCP projects
- Created Docker images and Kubernetes manifests as part of automated deployment pipelines
- Delivered features with Django's authentication, ORM, and form handling to meet critical public health requirements
- Implemented infrastructure-as-code with Terraform to manage cloud services across multiple staging environments

Software Developer

Ottawa, Ontario

Ross Video Ltd.

May 2022 – Aug 2022

- Developed a device driver in multi-threaded C to interface with vendor hardware over a proprietary serial communication protocol
- Migrated legacy production code to support long-term releases used by customers
- Followed Agile software development practices to implement new features that met customer requirements

Projects

Botanic Buddy | *Swift, Python, PyTorch*

- Trained a YOLOv8 object detection model in PyTorch with GPU acceleration to perform inference on mobile devices
- Implemented an intuitive SwiftUI interface to ensure seamless usability across iOS devices
- Curated a custom-labeled dataset using modern image segmentation techniques to enhance model accuracy in real-time object classification

Search Engine | *Typescript, Rust, MongoDB*

- Developed a performant RESTful API in Rust with integrated MongoDB full-text search over a custom-indexed dataset
- Designed a responsive React webpage to facilitate client searches using optimized search parameters

Legiter | *Go*

- Created a CLI tool to showcase practical post-quantum digital signature schemes on embedded systems
- Automated multi-platform binary builds and release workflows via GitHub Actions
- Performed in-depth benchmarking and profiling of digital signature implementations using Go's standard library

Skills

Languages: C, C++, Go, Python, JavaScript, Rust, Java, Scala, SQL, GraphQL

Frameworks: React, Django, PyTorch, Tokio, Apache Spark

Tools: Terraform, Docker, Kubernetes (K8s), Nginx, Caddy, SVN, Git, Jira, Selenium

Knowledge: DNS, NAT, TCP/IP, UDP, QUIC, Google Cloud Platform (GCP), Microsoft Azure, Databricks