

Andrew Guo

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EDUCATION

Carleton University

Sep. 2020 – May 2025

Honours Bachelor of Computer Science

Ottawa, Ontario

- Dean's Honour List, Jamie Corbet Memorial Award, Scotiabank International Exchange Award
- 12.0/12.0 CGPA (A+)
- *Relevant Coursework: Databases, Operating Systems, Computer Vision, Distributed Processing, IT Infrastructure*

EXPERIENCE

Junior Data Scientist

May 2024 – Aug. 2024

Public Health Agency of Canada

Ottawa, Ontario

- Created a data pipeline to store academic papers and use their embeddings in Large Language Models (LLMs) to help streamline literature reviews
- Benchmarked and aggregated performance metrics of various LLMs deployed in Google Cloud Platform (GCP) and Azure cloud environments
- Conducted large-scale data retrieval and processing using Apache Spark with notebooks written in Databricks

Junior Full Stack Developer

May 2023 – Apr. 2024

Public Health Agency of Canada

Ottawa, Ontario

- Wrote Terraform CI/CD pipeline that connected GCP infrastructure with GitHub to deploy pods with high availability inside Google Kubernetes Engine (GKE) for end users
- Optimized the existing GraphQL API stack to improve productivity for downstream users
- Implemented new features in Python using Django's auth, db, and forms to deliver vital health data to users in production

Software Developer

May 2022 – Aug. 2022

Ross Video Ltd.

Ottawa, Ontario

- Wrote low-level driver code in C and prepared software for release in mission-critical hardware
- Updated and migrated production code between diverse LTS software releases
- Followed Agile software development methodologies to implement new features for clients quickly

PROJECTS

Botanic Buddy | *Swift, Python, PyTorch*

- Trained a fine-tuned YOLOv8 object detection model using PyTorch and GPU acceleration for on-device deployment in mobile applications
- Created a labeled dataset using modern image segmentation techniques that enabled real-time image classification
- Designed intuitive and responsive UI elements in SwiftUI that were usable across all iOS devices

Search Engine | *Typescript, React, Rust, MongoDB*

- Built a high-performance RESTful Rust API to retrieve data from MongoDB up to 10x faster than comparable engines
- Implemented MongoDB Atlas full-text search on indexed data gathered by a custom web crawler
- Created a React webpage to facilitate client searches using optimized search queries and parameters

Legiter | *Go*

- Made a CLI tool using an open-source post-quantum cryptography library to showcase the usability of post-quantum digital signature schemes in real-time operating systems
- Wrote automated multi-platform binary releases using GitHub Actions
- Utilized Go features and standard library to conduct in-depth benchmarking and memory usage analysis of digital signature implementations

KNOWLEDGE

Languages: Go, Python, C, C++, Rust, Javascript, SQL, GraphQL, Terraform (HCL)

Frameworks: React, Django, Tokio

Developer Tools: Docker, Kubernetes (K8s), Nginx, Caddy, Tailscale, SVN, Git, GitHub, Jira, Selenium, Databricks

Skills: Google Cloud Platform (GCP), Azure, DNS, NAT, TCP/IP, UDP/QUIC, a11y, LaTeX, Rock Climbing