Andrew Pham

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EDUCATION

University of Ottawa Ottawa, ON
Honours Bachelor of Science in Computer Science *3.8 GPA | Expected May 2026*

EXPERIENCE

Tesla Jan. 2025 - Present
Software Engineer Intern, Dojo *Palo Alto, CA*
- Reduced CI resource usage by over **20%** in certain cases by analyzing test case performance with SQL/Pandas and implementing dynamic test timeouts
- Delivered multiple monitoring solutions including dashboards and alerts with Python and Grafana for CI test results, speeding up failing/flaky test case debugging
- Created a monitoring solution to alert the infrastructure team when CI nodes became unhealthy or unavailable using Prometheus/Grafana and Python/GitHub API, reducing incident response times by over **60%**

Software Engineer Intern, Infotainment *Palo Alto, CA*
- Designed a Python application to scan social media sites for complaints about Tesla's infotainment systems, integrating open-source LLMs with Ollama to determine relevance, summarize post content, and generate email reports for engineers, analyzing thousands of posts and reducing manual investigation time by **over 25 hours per week**
- Led the development of a mobile automation framework for Tesla's Robotaxi mobile application using Python and Appium, enabling automated CI checks for mobile app development and nightly smoke testing for releases

Nokia Sep. 2024 – Dec. 2024
Embedded C++ Software Developer Intern *Ottawa, ON*
- Reduced log buffer size by ∼**30%** using a custom C++/Protobuf encoding scheme to preserve more crash data
- Developed new features for a router management interface using C++, allowing users to apply config changes without needing to follow a strict order of operations
- Accelerated build process by **40+** seconds by optimizing a recursive Python file dependency tracking script using caching and batching disk read/writes

Royal Canadian Mounted Police May 2024 – Aug. 2024
Software Developer Intern *Ottawa, ON*
- Created a new ingestion pipeline for a Flask data visualization service, processing and inserting data from multiple excel sheets to a SQLite database, decreasing ingestion time by over **90%**
- Built and deployed a Dockerized FastAPI microservice for classifying media files using TensorFlow models via a unified REST interface
- Implemented multi-threaded inference on the ML microservice, improving total runtime by **35%** over sequential inference

Nokia Jan. 2024 – Apr. 2024
Test Automation Intern *Ottawa, ON*
- Developed a test automation program to create, send and receive mock traffic with **15+** protocols, and collect metrics on Linux devices to test fixed networks, controlled via a REST API built with Python and FastAPI
- Improved error handling and messaging for API endpoints, making it easier to use and identify erroneous use
- Created a Bash script automating program installation on Ubuntu, decreasing install time by **over 80%**

Recollective Inc. May 2023 – Sep. 2023
Software Developer Intern *Ottawa, ON*
- Created a new internal tool for testing LLM Prompts in TypeScript and Vue.js for rapidly prototyping AI features
- Developed API endpoints and DTOs with Java Spring, connecting the main application to an AI microservice
- Captured and logged AI request metadata in a FastAPI Python microservice with FluentD and AWS OpenSearch

PROJECTS

Distributed Web Crawler | *Go, Apache Kafka, MongoDB, AWS S3*
- Architected and built a scalable, distributed web crawler using **Go, Apache Kafka, MongoDB**, and **AWS S3**
- Developed separate services in **Go** for fetching and processing site data, allowing for independent scaling
- Utilized **Apache Kafka** as a resilient, distributed message queue to coordinate processing between the services

JustVent - Second in Best Use of Cloud Technology @ Hack the Hill 2 | *Python, Go, React, MongoDB, PostgreSQL, AWS*
- Created an app allowing users to journal and track their emotions over time using an NLP model run with **PyTorch**
- Implemented a semantic search microservice with **Go** on **AWS Lambda**, storing vector embeddings on **PostgreSQL**
- Designed application architecture and managed deployment on **Amazon Web Services**

TECHNICAL SKILLS

Languages: Python, Go, C++, JavaScript, TypeScript, Java, SQL, HTML/CSS
Technologies: React, Vue.js, Node.js, FastAPI, Flask, Spring, Express, PostgreSQL, MySQL, MongoDB, Apache Kafka
Developer Tools: Docker, Amazon Web Services (AWS), JIRA, Git, GitHub, GitLab, Jupyter, VS Code, IntelliJ, Linux