Andrew Pham

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EDUCATION

University of Ottawa   Ottawa, ON
Honours Bachelor of Science in Computer Science   *Sep. 2021 – Dec. 2025 | 3.8 GPA*

EXPERIENCE

Embedded C/C++ Software Developer   Sep. 2024 – Present
Nokia   *Ottawa, ON*
- Contributing to the development of router management core interface, providing a unified interface for configuring routers via different methods such as Netconf, SNMP, gNMI and classic CLI

IT Software Solutions Developer   May 2024 – Aug. 2024
Royal Canadian Mounted Police   *Ottawa, ON*
- Created a new ingestion pipeline for a **Flask** data visualization service, processing and inserting 5000 rows per second from multiple excel sheets to a **SQLite** database, decreasing ingestion time by over **90%**
- Architected a **FastAPI Python** microservice providing a simple interface for categorizing media files using multiple ML models, implementing multi-threaded inference, improving total runtime by **35%** over sequential inference

Test Automation Co-op/Intern   Jan. 2024 – Apr. 2024
Nokia   *Ottawa, ON*
- Developed a 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 system setup and program installation on **Ubuntu**, accelerating setup and install time by **over 80%**

Software Developer Co-op   May 2023 – Sep. 2023
Recollective Inc.   *Ottawa, ON*
- Created a new internal tool for testing LLM Prompts in **Vue.js** allowing for rapid prototyping of AI features
- Developed API endpoints and DTOs with **Java**, connecting the main application to an AI microservice
- Captured and logged AI request metadata in a **FastAPI Python** microservice and forwarded results to AWS OpenSearch with Fluent for validation and monitoring
- Implemented validation to the **Spring** controllers to support a new limited-feature license, increasing sales by 10%

Software Developer Co-op   May 2022 – Sep. 2022
Recollective Inc.   *Ottawa, ON*
- Implemented new front-end form input components using **JSP**, **Vue.js**, **JavaScript**, **jQuery**, and **HTML/CSS**
- Developed new back-end features and API endpoints using **Java**, **Spring** and **MySQL**
- Completed various QA tasks including creation of test cases and end-to-end testing

PROJECTS

Sugar Shack Monitor | *C, Node.js, Express.js*
- Developed a **C** program for an ESP32 micro controller to detect when a sap barrel filled up using a capacitive moisture sensor, and sending a message to a local server via web socket
- Created a **Node.js/Express** server to connect to the ESP32 via websockets, allowing for the threshold to be updated, and interfacing with the user via text message using a GSM module, or by REST API calls

E-Hotels | *React, Node.js, Express, MySQL*
- Developed a full-stack web app that allows customers to search and book hotel rooms, and employees to create and manage hotel chains using **React**, **Node.js/Express** and **MySQL**

TECHNICAL SKILLS

Languages: Java, Python, JavaScript/TypeScript, SQL, HTML/CSS, C++
Frameworks/Libraries: React, Vue.js, Node.js, FastAPI, Flask, Spring, Express, PostgresQL, MySQL, LangChain
Developer Tools: Git, Docker, AWS, JIRA, GitHub, GitLab, Jupyter, VS Code, IntelliJ
Operating Systems: Linux (Ubuntu, Debian), macOS, Windows