

# Tom Mai

tomma@gmail.carleton.ca | (437) 216-3555 | minhthongmai.com | github.com/MinhThong14 | linkedin.com/in/tom-mai

## EDUCATION

### Carleton University

Ottawa, Ontario, Canada

Honours Bachelor of Computer Science Co-op

CGPA: 11.68/12 (A+)

Sept 2019 – Apr 2024 (Expected)

- Carleton Deans Honour List in 2019, 2020, 2021
- Nominated in Golden Key Society for top 15% students in Faculty of Science in 2019, 2020, 2021

## SKILLS

**Languages:** C, C++, Embedded systems, Python, Java, PHP, Go, Linux

**Libraries & Tools:** Valgrind, Qt, JUnit, Cucumber, Selenium, Vim

**OS Concepts:** Scheduling, Memory, Files, Processes, Threads, Concurrency, Mutex, Semaphores

## EXPERIENCE

### Research Assistant

Carleton University, Ottawa, ON, Canada

Sept 2023 – Current

Technologies: Python, Qiskit, Quantum Permutation Pad (QPP)

- Extending & optimizing Quantum Permutation Pad (QPP) algorithm using Python, Qiskit to enrich the randomly dispatching procedure, resulting in successful Quantum encryption and decryption consisting of n-qubit permutation gates

### Software Developer Co-op

Knak, Ottawa, ON, Canada

Sept 2022 – Apr 2023

Technologies: PHP, Laravel, SQL, Vue, TypeScript, SCSS, TinyMCE, AWS, Docker, Kubernetes

- Developed & deployed features' flag management service to AWS S3 using PHP, Laravel, Docker, Kubernetes
- Built new dark/light mode feature using Vue, SCSS and E2E test, improved monthly active users by 11%
- Integrated brands' colours from user assets to TinyMCE using Vue, realized an estimated new contracts of \$350,000

### Data Analyst Co-op

Innovapost, Ottawa, ON, Canada

Apr 2022 – Aug 2022

Technologies: Python, Pandas, Jupyter Notebook, SQL, TeradataSQL, ER Model, E2E Testing

- Automated data pipeline to database using Python, TeradataSQL, decreased average processing time from 1 day to 2 minutes
- Implemented & owned data model for a data catalog project using ER modelling, used by 100+ users
- Increased E2E tests coverage by 20% for data processing service transforming raw data to metadata intake standard

### Full Stack Developer (Tooling and Performance Co-op)

Nokia, Ottawa, ON, Canada

May 2021 – Dec 2021

Technologies: Python, JavaScript, Bash, Linux, Flask, API, Docker, React, HTML, CSS, Grafana

- Utilized distributed system to optimize data fetching scripts from Azure service, reduced running time by 95% from 45 mins to 1 min
- Debugged URL's fetching errors on Linux server, increased unit tests coverage from 65% to 80%
- Built enrollment service allowing users to edit info directly using Javascript, Python, Flask, SQL, decreased avg support time by 70%

### Teaching Assistant

Carleton University, Ottawa, ON, Canada

Sept 2020 – Current

- Organized office hours to guide 1000+ students through materials of discrete math, data structures, algorithms, C++, OOP, Java

## PROJECTS

### Cranial Stimulation Device Simulator

C++, QMake, Qt, UML, Agile

- Developed a medical simulator device simulating functionalities that help patients' nerves relax and conducive to sleep aids

### IOL Emulation

C, IPCs

- Emulated an IoT system using software processes and system calls for inter-process communications (IPCs)

### Smart Botanics

C, Embedded Arduino, PHP, HTTP protocol, MySQL

- Created an automatic system that allows users to take care of their plants remotely and conveniently over the Internet

### Crazy Eights Game

Java, JUnit, Selenium

- Demonstrated unit tests and acceptance tests for a web-based implementation of game Crazy Eights

### Distributed MapReduce System

Go, gRPC

- Implemented a distributed MapReduce system consisting of a coordinator and a worker executing in parallel via RPC