

Tom Mai

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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

- OS Concepts: Linux, Scheduling, Memory, Files, Processes, Threads, Concurrency, Mutex, Semaphores, IPC
- JavaScript, TypeScript, Java, PHP, Go, Rest API, HTTP Protocol, HTML, CSS, SQL, AWS, Azure, MongoDB, E2E Test
- C, C++, Python, Embedded, TCP/IP, RPC, OOP, Agile, TDD
- Node, Express, React, Vue, Flask, Laravel, SCSS, TinyMCE, Pandas, Docker, Kubernetes, Postman, ER Model, Grafana
- Valgrind, Qt, UML, JUnit, Cucumber, Selenium, Qiskit, Git, Vim

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, COMP 4004 Software Quality Assurance, Carleton University

Java, JavaScript, HTML, 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