

# Aaron McLean

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## Education

### Carleton University, Ottawa, Ontario

2021 – 2025

*Bachelor of Science, Computer Science (B.C.S)*

- Recipient of C.J. Mackenzie Scholarship Award
- Member of Carleton Computer Science and Artificial Intelligence Society

## Technical Skills

**Programming Languages:** Java, Python, Swift, C, C++, CSS, JS, R, Rust, Haskell, TypeScript, Lisp, Lua

**Tools & Technologies:** OpenGL, RESTful APIs, Node, jQuery, JSON, Kubernetes, JIRA, Parallel Computing, Compiler Construction, Cryptography, AWS, Embedded Systems, Docker, Real-Time Operating Systems (RTOS), SQL, Neo4j, MongoDB, Azure, TypeScript, Git, SVN, Travis CI, XCode, VSCode, MATLAB, IBM SPSS, TensorFlow, Jupyter

## Applied Projects

### Full-Stack iOS Application

2023 – 2024

- Developed and deployed a full-stack iOS application with user authentication, secure data storage, and real-time synchronization using Objective-C, Swift, Node.js, and PostgreSQL
- Implemented RESTful API endpoints supporting secure user authentication, account creation, login, and personalized tracking
- Designed a modular Network Manager utility to abstract and optimize network interactions
- Applied database normalization and ensured ACID compliance for PostgreSQL schema design

### CNN Architecture for SARS-CoV-2 X-ray Classification

2024 – 2025

- Trained an optimized Convolutional Neural Network (CNN) using TensorFlow with a 15M parameter architecture to extract SARS-CoV-2 diagnosis information from chest X-ray images
- Applied architecture consisting of Conv2D, MaxPooling, Dense, and Dropout layers, achieving a final accuracy of 97.55%
- Successfully trained the model for mobile deployment on a resource-constrained platform, optimizing for performance on local Apple M-Series CPUs

## Work Experience

### Technology Representative

2018 – 2022

*Staples Business Depot, Collingwood, Ontario*

- Provided hardware and software diagnostics for a broad spectrum of technical issues, ensuring effective resolution for customers, as well as adhering to various software driven procedures while utilizing problem-solving and debugging skills
- Leveraged product knowledge and strong communication skills to translate technical concepts to customers in an effective manner.

### IT Infrastructure Consultant

2023

*Stone Tree Clinic, Collingwood, Ontario*

- Worked with the clinic staff to understand technical requirements, providing solutions and troubleshooting issues related to system performance and security
- Implemented and maintained office-wide file-sharing system using secure FTP to deliver a cross platform central file sharing system for a team of 15+ employees
- Improved the performance of the clinic's infrastructure by conducting network and system diagnostics, and performing hardware upgrades