# 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:**
C, C++, Go, Rust, Java, Swift, Python, R, Haskell, Lisp, JavaScript (JS), TypeScript, CSS

**Frameworks & Libraries:**
Node.js, jQuery, JSON, RESTful APIs, TensorFlow, MATLAB, TypeScript, React

**Tools & Technologies:**
Git, SVN, JIRA, Travis CI, AWS, Azure, Docker, Kubernetes, SQL, MongoDB, Neo4j, XCode, VSCode, Jupyter, Embedded Systems, Real-Time Operating Systems, Parallel Computing, Compiler Construction, Cryptography

## Work Experience

**Technology Associate** *2018 – 2022*
*Staples Business Depot, Collingwood, Ontario*

- **Provided hardware and software diagnostics** for a broad spectrum of technical issues, ensuring effective resolution for customers and 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*

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

## 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.
- **Applied strict database normalization and ensured ACID compliance** for PostgreSQL schema design and implementation.

**Neural Network Architecture** *2024 - 2025*

- **Developed and optimized a TensorFlow-based convolutional neural network** using an enhanced AlexNet architecture to extract SARS-CoV-2 diagnostic information from chest X-ray images.
- **Designed a robust network architecture** incorporating Conv2D, MaxPooling, Dense, and Dropout layers, achieving a final accuracy of 97.55%.
- **Adapted and deployed the model for mobile platforms** on resource-constrained environments, optimizing performance for Apple M-Series CPUs.