OWEN WALDRON

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TECHNICAL SKILLS

Proficient Technical Skills: C++, Python, TypeScript, SQL, HTML, MLIR, Swift, CSS, Bash, Kubernetes, Excel
Mobile Development: iOS (Swift: SwiftUI & MVVM, Storyboards), Android (Java: Android Studio)
Web Development: Backend (FastAPI, Node.js, Django), Frontend (React.js, Svelte, Tailwind), Databases (MongoDB, SQL)

EDUCATION

University of Waterloo, Faculty of Mathematics | May 2027   **Cumulative GPA:** 93.87%
Bachelor of Computer Science (Candidate)
- **Honors & Awards:** President's Scholarship of Distinction
- **Relevant Courses:** Object Oriented Software Dev, Algorithms, ML Foundations, Intro to AI, Applied Cryptography

WORK EXPERIENCE

Undergraduate Research Assistant   **Sep 2025 – Current**
CryPS Lab at University of Waterloo – Waterloo, ON
- Investigating optimizations in private record linkage protocols that improve runtime while preserving differential privacy

Junior Machine Learning Compiler Engineer   **May 2025 – Aug 2025**
Huawei – Toronto, ON
- Designed compiler passes in in C++ to optimize AI model execution on proprietary hardware accelerators
- Collaborated with hardware and AI teams to co-design software abstractions that maximized throughput in wireless inference scenarios
- Contributed to a custom MLIR dialect for hardware-specific transformations and operator fusion

Junior Developer   **Sep 2024 – Dec 2024**
Marques Consulting Group – Toronto, ON
- Created reusable GitHub actions and template repositories to pioneer continuous deployment pipeline to Kubernetes.
- Developed company website in Svelte and video conference speaker analysis tools using FastAPI and ReactJS
- Established frameworks for the analysis of model accuracy and program efficiency to improve existing applications.

Software Developer   **Dec 2023 – May 2024**
Marsh McLennan Companies – Toronto, ON
- Developed internal workflow automation software as part of an Agile software development team (MERN stack).
- Collaborated with UX team to engineer a reusable React component library for internal use.
- Experimented in creating proof-of-concept applications to improve targeted workflows

SAMPLE PROJECTS (PORTFOLIO)

Monocular Depth Estimation (link)   **April 2025**
Pytorch, CNNs, Computer Vision
- Implemented a convolutional neural network for depth estimation, leveraging stereo image pairs to train an unsupervised pixel-wise disparity model.
- Applied computer vision research papers to design, train, and evaluate deep learning models

WaveAI (link)   **July 2023 – Dec 2023**
Swift & SwiftUI, Xcode, OpenAI API
- Enabled fluid speech-to-text and text-to-speech conversations using the AVFoundation library and OpenAI's API
- Realized a colleague's Figma design using SwiftUI, and implemented the MVVM architecture for the app

Data-Pool.ca (link)   **June 2021 – August 2023**
Django, React.js, HTML (Jinja 2), CSS, Javascript
- Implemented a Django backend that allows the querying of an SQL database of millions of swims via a RESTful API.
- Designed a dynamic React.js fronted which interacts with the backend through GET and POST requests.

OTHER SKILLS

Skills: Proficiency in French, advanced problem solving, team management and cooperation, analytical and critical thinking
Interests: Mathematics, cryptography, physics, rock climbing, roller blading, competitive swimming, cats, video games