Anthony **Barros**

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Professional Summary

M.E.Sc. ECE student and full-stack software engineer with 16 months of production experience at Versa Networks building scalable React-based SaaS platforms. Led interdisciplinary team to 2nd place in UWO President's Challenge, designing and presenting a healthcare solution to Ontario Ministry of Health executives. Expertise in MERN stack development with current research focus on FPGA-accelerated machine learning for real-time inference.

Education

Western University - M.E.Sc. ECE, Software   May 2025 – Present

· Courses: Intro to Machine Learning, Data Analytics Foundations, Human-Computer Interaction

Western University - B.E.Sc. Software/w Co-op (3.7 GPA)   Sept 2018 – April 2025

Experience

Western University - Teaching Assistant   Sept 2025 – Dec 2025

· **Supervised lab sessions and tutorials** for 40+ students in Data Structures and Algorithms, providing hands-on mentoring on algorithmic problem-solving and reinforcing core concepts
· **Graded assignments and exams** while holding office hours, delivering personalized feedback to guide student learning and mastery of complex data structures

Versa Networks - Software Engineer Intern   May 2022 – August 2023

· Built reusable UI components in React that **improved user experience and increased customer satisfaction** for the SaaS web application
· Converted UI/UX designs from Figma to pixel perfect React implementations, **consistently meeting tight project deadlines**
· **Resolved 100+ production bugs** while shipping new features, effectively balancing technical debt reduction with product velocity

Projects

Machine Learning-Based Epileptic Seizure Prediction   Nov 2025 – Dec 2025

· Developed comparative machine learning analysis using clinical EEG data (**Python, scikit-learn**) to predict seizures with optimized preictal window parameters for immediate clinical intervention
· **Engineered data processing pipeline** extracting 2,688 temporal windows from 16 seizures across 4 patients with 40 statistical features from 10 EEG channels
· Evaluated three algorithms (logistic regression, random forest, SVM) across four preictal window lengths, identifying 120-second windows as optimal balance between prediction accuracy (0.626 ROC-AUC) and clinically useful warning time

UWO President's Challenge – 2nd Place   Jan 2024 – June 2024

· Developed a **full-stack web-app using the MERN stack** that would allow ER patients to wait at home
· Collaborated with legal and healthcare specialists to develop an app that would limit liability
· **Presented in front of Ontario Ministry of Health executives**
· Prepared a detailed report on the problems inherent in lengthy wait times in Ontario ERs

Technical Skills

Languages:	JavaScript, HTML5, CSS3, Python, Java, SQL
Tools:	MySQL, MongoDB, Git, Docker, Jira, Postman, Vite
Frameworks/Libraries:	React.js, React Native, jQuery, Express, DaisyUI, Tailwind, Flask, Jest