Justin Nitoi

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EDUCATION

University of Waterloo, Waterloo, ON *Sep 2024 - Present*
Bachelor of Computer Science

- **Cumulative Average: 96%** (Dean's Honours List) | President's Scholarship of Distinction.
- **Relevant Coursework:** Data Structures & Algorithms, Object-Oriented Programming, Linear Algebra, Calculus II, Probability & Statistics, Logic & Computation.
- **Awards:** Euclid Math Contest Honour Roll (Top 1% in Canada), AIME Qualifier.

EXPERIENCE

AI Engineering Consultant *Remote*
Story City *Jun 2025 - Aug 2025*

- Architected **3 AI microservices** using **Azure** and **Google Maps API**, engineering a graph algorithm that reduced storyboard creation time by **40%**.
- Optimized route duration prediction logic to within **±5 minutes** and migrated infrastructure to **AWS Lambda**, cutting projected cloud costs by **50%**.
- Presented technical feasibility reports to stakeholders, directly influencing the roadmap for **2 core product features**.

Undergraduate Math Tutor *Waterloo, ON*
University of Waterloo *Sep 2025 - Present*

- Mentored students in Calculus and Linear Algebra, improving regular attendees' grades by **15%** through rigorous proof analysis.
- Identified and corrected logical fallacies in student work, reinforcing the mathematical foundations required for upper-year CS.

PROJECTS

NameNet (Transformer Research) | Python, PyTorch *Jun 2025 - Aug 2025*

- Engineered a gender classification model using **PyTorch**, benchmarking LSTM vs. Transformer architectures on **40k+** samples.
- Implemented data sanitization with **Pandas** to correct label inconsistencies, boosting validation accuracy from 88% to **99.2%**.

Neural Network from Scratch | Python, NumPy *Jan 2025 - Feb 2025*

- Built a neural network for MNIST digit recognition **without ML libraries** to demonstrate mastery of calculus and backpropagation.
- Implemented Stochastic Gradient Descent (SGD) and ReLU activation manually, achieving **97%+ training accuracy**.

WebMessenger | Python (Flask), JavaScript, SQL *Apr 2025 - May 2025*

- Developed a secure full-stack messaging platform using **Flask** and a **Normalized (3NF) SQLite** database.
- Designed a custom ORM to abstract SQL queries and built a responsive frontend with asynchronous message updates.

SKILLS & CERTIFICATIONS

Languages: Python, C++, SQL, JavaScript, HTML/CSS, Scheme/Racket

Technologies: PyTorch, NumPy, Pandas, Flask, Git, Linux, AWS Lambda, Azure Functions

Certifications: Microsoft Certified: Azure Fundamentals, Azure AI Fundamentals