Jason Nguyen

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Education

Toronto Metropolitan University Toronto, ON
Bachelor of Engineering in Computer Engineering *Apr 2026*

Technical Skills

Languages: Python, C/C++, C#, Java, JavaScript, HTML/CSS, MATLAB, ROS, TypeScript
Libraries and Frameworks: Flask, LangChain, Tensorflow, Numpy, CUDA, VHDL, React.JS, Tailwind CSS
Developer Tools: Selenium, Git, VS Code, Visual Studio, PyCharm

Experience

Toronto Metropolitan Aerial Vehicles Aug 2023 – Present
Control System - lead Battery Management System subteam
Toronto, ON

- Helped with the development of a full-stack application using Python, Flask, HTML, and CSS to calculate optimal drone battery usage, resulting in significant cost savings and reduced test flight time.
- Created a Battery Management System with State of Charge, Battery Discharge Prevention, and Emergency Landing features using Matlab, Arduino (C++), Python on a and using ROS to facilitate communication between parts of the system, enhancing drone safety for competition. The source code can be found here.
- Conducted computational fluid dynamics (CFD) analysis using AutoDesk simulation to estimate drag values, achieving a 10% increase in calculation accuracy.

Toronto Metropolitan Aerial Vehicles Sep 2023 – Present
Propulsion Team *Toronto, ON*

- Conducted weekly programming and math learning sessions with team members, covering software tools and course material in Calculus, Physics, and Programming.
- Hosted informative tutorials focusing on the functionality of drones, specializing in the intricacies of flight controllers, motor battery systems, and more. These sessions contributed to a 25% increase in team efficiency and a notable 40% rise in software adoption.

Communication Specialist Sep 2023 – Present
Propulsion Team *Toronto, ON*

- Crafted engaging content to share exciting updates and connect with our hackathon community.
- Navigated friendly and effective email communications to keep everyone in the loop.
- Provided approachable responses to inquiries, making information accessible to all.
- Shared hackathon details in a way that resonated with our diverse audience.
- Contributed to boosting our online presence and fostering stronger community connections.

Projects

General Purpose Processor| ***Source Code***, *VHDL, Quartus* Dec 2023 – Present

- Designed and implemented an FPGA-based Arithmetic Logic Unit (ALU) using VHDL within the Quartus environment.
- Conducted comprehensive simulations with Quartus Simulator to validate functionalities and optimize efficiency.
- Gained hands-on experience translating theoretical concepts into practical applications.

Chatbot | ***Source Code*** *and blog, TensorFlow* June 2023 – Present

- Using TensorFlow to create a chatbot based on a database got from Kaggle
- Implemented advanced NLP techniques for enhanced user interactions.
- Collaborated on a user-friendly interface with multi-turn conversations and sentiment analysis.

Lethal Company Mod| ***Source Code***, *C++, Unity* Jan 2024

- Acquired proficiency in Unity for game development, including scene creation and scripting.
- Implemented custom functionalities using modding libraries, enhancing the game experience.
- Applied C++ for designing and implementing game mechanics within the Unity framework.
- Explored character interaction features, contributing to dynamic gameplay experiences.
- Continuing contributions to the modding community, with plans to enhance the Lethal Company and explore new modding projects..