Marcus Justice Uy

Toronto, ON
marcusjustice.uy@gmail.com
linkedin.com/in/marcus-uy
647-996-7234
github.com/marcus-justice31
Portfolio: marcus-justice31.github.io

Summary

Detail-oriented Software Engineering graduate with strong foundational knowledge in data structures, algorithms, and object-oriented programming, complemented by hands-on experience developing and deploying cloud-based systems. Experienced in building backend services and APIs with a focus on scalability, performance, and clean code. Eager to contribute to real-world software systems in a collaborative, fast-paced environment.

Education

Bachelor of Engineering - Computer Engineering (Honours) 2021 – 2025
Toronto Metropolitan University (formerly Ryerson)
Dean's List: 2021/2022 | 2022/2023 | 2024/2025
Relevant Coursework: Data Structures & Algorithms, Software Architecture, Databases, Operating Systems, Computer Networks, Cloud Computing

Professional Certifications

AWS Certified AI Practitioner November 2025 – November 2028
Issued by Amazon Web Services Training and Certification

Technical Skills

Languages: Java, C, Python, JavaScript, SQL, HTML, CSS
Frameworks: React.js, Bootstrap, Node.js, FastAPI, Flask, gRPC
Developer Tools: Git, Docker, Kubernetes, Azure Cloud, Google Cloud, Google Colab, Microsoft 365, RabbitMQ
Libraries: OpenCV, Ultralytics YOLO (YOLOv8/YOLOv11), NumPy, Pandas, Scikit-learn, MongoDB (NoSQL), MySQL, Oracle SQL, OpenAI API
Concepts: Object-Oriented Programming (OOP), Data Structures and Algorithms, Distributed Systems, RESTful API Design, Multithreading, Networking, Operating Systems, Machine Learning Fundamentals

Work Experience

Sterling Information Technology Internship June 2021 – June 2023

- Worked with a 4-member technical team and 3 external clients to implement QoL improvements and new functionality for the ROSe Telehealth mobile app, delivering the project 20% ahead of schedule.
- Gathered and documented business and technical requirements, producing Business Requirements Documents (BRDs) and test result documentation to support development and QA processes.
- Conducted quality assurance testing, validating functionality against requirements and coordinating feedback with developers to ensure high client satisfaction.

- Designed user interface mock-ups and logic flows for a cybersecurity payment application focused on security upscaling
- Created and maintained technical documentation for company alerts, networks, servers, and rulesets, organizing system data into structured Excel reports.

Volunteer Experience

Daily Bread Food Bank December 2025

- Volunteered in a group of 7, working alongside 200+ other volunteers to sort and distribute over 35,000 tonnes of donated food
- Maintained accuracy and efficiency in a high-volume, time-sensitive environment
- Promoted team coordination and morale through clear communication and a proactive work approach

Academic and Personal Projects

AI Meal Plan Application Sep 2025 – Present

- Designed a 7-day meal planning system that utilizes OpenAI API to produce specific meals
- Reduced cost by 45% and improved latency by 67% through reduction in input and output tokens
- Built a responsive user interface in React, for user creation and user login
- Built a dashboard to keep track of past meal plans and the date that they were created
- Developed 6 backend API endpoints connected to NoSQL database, to keep track of users, profile information, and their generated meal plans
- **Technologies Used:** OpenAI API, Python, React.js, HTML, CSS, FastAPI, MongoDB, Bootstrap

Smart Waste Sorting System Sep 2024 – Apr 2025

- Collaborated with a team of 4 to develop and deploy a YOLOv11-powered Smart Waste Sorting System for real-time waste classification into garbage, recyclables, and compost
- Delivered a robust, low-latency system capable of operating on consumer-grade hardware under extended use conditions without major performance degradation
- Trained the model using over 50,000 images across three public datasets, with custom preprocessing and augmentation to improve detection performance
- Delivered a robust, low-latency system maintaining less than 200ms average inference time per image under extended use
- Improved overall detection accuracy by 74% and precision by 43% over the baseline model
- **Technologies Used:** Google Colab, Python, React.js, HTML, CSS, Flask, GIT

Smart Parking System Jan 2025 – May 2025

- Designed and deployed a cloud-native, smart parking system that simulates IoT sensors to monitor parking space availability in real-time
- Built a responsive user interface in React with dynamic dashboards for both users and admins, supporting real-time updates and scalable system interaction
- Developed 10+ backend API endpoints for user authentication, dynamic pricing, wallet management, and admin controls, improving system scalability and usability
- **Technologies Used:** Azure, Python, FastAPI, RabbitMQ, React.js, Docker, MongoDB

Music Web Application Jan 2024 – Apr 2024

- Designed system using UML and ER diagrams and utilized object-oriented programming principles to design modular and maintainable code.
- Implemented microservices on Google Cloud web services and pulled as Docker containers onto Docker Hub
- **Technologies Used:** Java, Apache Tomcat middleware, MySQL, Docker, Kubernetes, JSP, Google Cloud, HTML, CSS