

Joshua Mac

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Technical Skills

Programming Languages: Python, JavaScript, C/C++, SQL (PostgreSQL, MongoDB), VB.NET

Frontend: React, Vue, D3.JS, Bootstrap, Tailwind

Backend: Node.JS, Express.JS, Flask, RESTful APIs, GraphQL

Testing & Automation Tools: Selenium, Pytest, CI/CD, Git, Docker, Vercel

Experience

Software Engineer

TELUS | September 2024 – January 2025

TELUS | January 2023 – August 2023

- Designed and implemented Oasis, an internal enterprise tool using React and VB.NET to improve project workflows, wireline management, and network operations.
- Utilized Python (NumPy, Pandas) to integrate real-time network operations data, identifying inefficiencies and improving data accuracy.
- Automated regression testing with Selenium, reducing manual testing efforts by 50% and improving defect detection rates by 40%.

Full Stack Engineer

Mitsubishi | May 2022 – January 2023

- Developed and maintained a Component Tracking Tool using React and Flask, enhancing authentication and real-time data visualization for operators.
 - Implemented test-driven development (TDD) with Pytest, ensuring seamless integration between frontend and backend components.
 - Performed monthly data analysis using Python and Excel's advanced visualization tools, presenting insights to stakeholders.
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Projects

Traffic Violation Detection with Machine Learning and AI

- Developed and deployed a robust machine learning pipeline utilizing YOLOv5 for speed sign detection and a ResNet-18 model for speed zone classification. Integrated the system into real-world camera footage, effectively detecting speed signs and assisting in monitoring and regulating vehicle speeds
- Collected and augmented a collection of images using a GAN model to produce 8000 images, implementing data cleaning and preprocessing procedures to ensure dataset quality

DevHub: Developer Portfolio & Blogging Platform

- Developed a full-stack web app using React, Redux, Node.js, Express, and PostgreSQL, featuring JWT/OAuth authentication and a real-time commenting system with WebSockets
 - Designed an interactive project gallery & blogging platform on Vercel and seamless navigation with Tailwind CSS & React Router
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Education

Queen's University, Kingston, ON

Bachelor of Applied Science, Computer Engineering

- **Relevant Courses:** Data structures, Object Oriented Programming, Fundamentals of Software Engineering, Algorithms, Computer Vision, Machine Learning and Deep Learning, Engineering Design and Practice