

# Joshua Mac

[Mac.joshua450@gmail.com](mailto:Mac.joshua450@gmail.com) | (647) 450 – 2760 | Toronto, Ontario, Canada | [www.Joshuamac.com](http://www.Joshuamac.com)

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## Technical Skills

JavaScript, TypeScript, Python, NodeJS, React, Flask, SQL (PostgreSQL, MySQL, Oracle), Express, CSS, HTML, VB.NET

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## Experience

### Software Engineer

January 2023 – September 2023

TELUS

- Designed and implemented Oasis, an integrated tool utilizing React and VB.net, to streamline project organization, wireline management, and network operations at TELUS
- Utilized Google Maps API to develop wireline and network tracking tool, successfully deployed on AWS infrastructure, providing real-time updates on client statuses and information which reduced operational delays by 77%
- Automated processes by consolidating tools such as SAP, time sheets, and activity trackers into a single platform, improving project management efficiency

### Full Stack Engineer

May 2022 – January 2023

Mitsubishi

- Developed and maintained the company's Component Tracking Tool application using React and Flask, enhancing component tracking and authentication for specific operators
  - Collaborated with software developers, UI/UX designers and clients to design and develop landing pages, improving frontend responsiveness and user experience of tool
  - Conducted monthly updates on component performance by extracting data from Oracle database and presenting insights through Excel's advanced visualization for operators and clients
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## Projects

### Traffic Violation Detection with Machine Learning and AI

- Deployed 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

### Movie Recommender Application with RESTful API and Authentication

- Developed a full-stack movie recommendation application using React, NodeJS, Express and PostgreSQL, creating a scalable backend with a well-optimized database schema to handle user data and a responsive frontend with real-time suggestions
  - Integrated The Movie Database API (TMDB) to create a dynamic recommendation engine with real-time data processing and filtering
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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