Gary Ye

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Technical Skills

- **Languages:** Python, JavaScript, C++, C, Java, TypeScript, SQL, PHP, Bash
- **Technologies:** AWS, NumPy, pandas, Spark, PostgreSQL, Node.js, Docker, Airflow, React, MongoDB

Education

University of Waterloo   September 2019 - April 2024

- Bachelor of Computer Engineering (3.80 GPA)

Work Experience

Tatari - Software Engineering Intern   May 2022 - Present - San Francisco, CA

- Designing **ETL pipelines** and productionizing machine learning models for TV ad data and analytics
- Spearheading the introduction of model performance monitoring through aggregating and visualizing disjoint datasets with **Python**, **Airflow**, **PostgreSQL**, and **Redshift**, providing alerts for significant errors
- Tuning and optimizing models to support a backend migration to **Databricks** and **Spark**

Arcturus Networks - Software Engineering Intern   September 2021 - December 2021 - Toronto, ON

- Rearchitected a system manager from a **Python** app into a multi-platform **dockerized Electron app** running on a **Node.js backend** that supports concurrent configuration and firmware management of an **IoT** site
- Facilitated multiple remote site connections with **Sockets** and **Feathers**, a real-time app framework
- Leveraged **Docker** to integrate the system manager into an LS1012A communications processor.
- Configured the deployment pipeline for completed images with **Docker** and **GitHub Actions**

Newtopia - Software Engineering Intern   January 2021 - April 2021 - Toronto, ON

- Developed both web and mobile **React** platforms for a disease prevention service with a user-base of over 10000
- Performed a complete refactor to **TypeScript**, improving performance of the mobile app by 30%
- Improved the security of high traffic public **Java** APIs by providing **JWT** support
- Leveraged **Salesforce's** CRM database and backend to create new internal tools and API endpoints

Waterloop - Software Developer   November 2020 - May 2021 - Waterloo, ON

- Constructed website backend for remote microcontroller development using **WebSockets**
- Features include remote file flashing, I/O streaming, live video, and CAN bus communication support
- Created a program manager for microcontrollers and support for serial console in **Node.js**

ULAAP Inc. - Software Engineering Intern   May 2020 - August 2020 - Toronto, ON

- Architected a management portal for a transportation and logistics company
- Leveraged a **PostgreSQL** database and **PHP** to implement product and contact upload, and search/autocomplete API, reducing work order creation time by 20%
- Independent projects include map widgets, external API integrations and PDF generation automation

Projects

TTC Predictions   http://ttc.raygye.ga

- Constructed a **JavaScript** bus predictor web app presenting live, periodically updated estimated times of arrival (ETAs) and vehicle locations across the Greater Toronto Area, serving over 1300 prediction requests

Systems Programming and Concurrency Projects

- Leveraged threads, processes, semaphores, and mutexes in **C** to create various projects such as PNG validators, webcrawlers, and directory searchers.