Andrew Zhang

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SKILLS

Languages: Java, JavaScript, TypeScript, Python, C#, C/C++, HTML, CSS, SQL
Frameworks and Libraries: .NET, React, Node.js, Core MVC, scikit-learn, Gatsby, Streamlit, Chakra UI
Tools: Git, Bash, Unix, Firebase, MySQL Server, Netlify, Figma

EXPERIENCE

Data Analyst Intern | *Ontario Clean Water Agency*   *Jun 2021 - Aug 2021*
- Developed a machine learning software in **Python** for the optimization of water and wastewater treatment facilities.
- Incorporated an algorithm comparison tool to select the most suitable regression/classification algorithm for prediction (with **Pandas, seaborn**, and **scikit-learn**), resulting in an estimated **20-30%** reduction in chemical and energy consumption.

Lead Programmer | *Team 34235: Lifesource Robotics*   *Sep 2017 - Apr 2018*
- Developed manual and autonomous robot driving modes in **Java** based on **gyro** and **PID algorithms**, leading the team to qualify for the **FIRST Robotics World Championship** as 1 of 2 Canadian teams.
- Innovated a cloud-based device using an **OpenCV** image recognition system in **C++** to detect water leakage in households, incorporating a **mobile app** and **WiFi capability** for live data analysis and remote control of home water flow.

Coding Instructor | *MI3L School*   *Nov 2018 - Jul 2019*
- Created curricular content and taught classes in **Javascript, HTML/CSS** and **Python** to over 50 students.

PROJECTS

NoCode.ML ⎆ | *Python, Django, Streamlit, scikit-learn*   *Jul 2020 - Present*
- Initiated a no-code machine learning web application to allow professionals to solve their specific process challenges without the need for any in-depth programming knowledge or training.
- Utilized **Streamlit** for front-end development and **Django** for back-end support.
- Leveraged advanced caching techniques to improve the web application's memory usage, scalability and latency by **90%** (from **220ms to 25ms**), allowing for faster and more efficient computation of large, complex datasets.

StoreBase Inventory Management System ⎆ | *C#, ASP.NET, SQL*   *Apr 2022 - May 2022*
- Designed a complete single-page application (**SPA**) for inventory management with **ASP.NET Core Blazor** in **C#**.
- Architected and implemented a scalable back-end system with a **SQL Server** database using Entity Framework Core.
- Incorporated external authentication and authorization services (Google, Facebook) with **ASP.NET Web API**.

JobEasy ⎆ | *JavaScript, React, ChakraUI*   *Jan 2020 - Aug 2020*
- Developed a job-searching website specialized for immigrants with **React, ChakraUI** and **Firebase**.
- Integrated a **NoSQL** cloud database to implement advanced map, search and matching functions with unit test coverage of 100% using **Mocha, Chai**, and **Storybook**.

EDUCATION

University of Waterloo   *September 2021 - Present*
Candidate for Honours Bachelor of Computer Science, GPA: 3.7/4.0

AWARDS AND PUBLICATIONS

- Zhang A., & Pereira, J., 2022, **Development of a No-Code Machine Learning Tool to Optimize the Operations of Water and Wastewater Treatment Facilities** ⎆ , Presented at Ontario Waterworks Association Annual Conference 2022
- University of Waterloo Alumni @ **Microsoft Entrance Scholarship** in Mathematics
- University of Waterloo **President's Scholarship** of Distinction
- FIRST Robotics (FLL) **World Championship Competitor** | Detroit, Michigan
- FIRST Robotics (FLL) **Provincial Champion's Award** | University of Waterloo, Ontario
- Canadian Senior Mathematics Contest 2020 Honor Roll Group IV | **Top 2%** (Worldwide)

INTERESTS & ACTIVITIES

| ⚽ Soccer | Calisthenics | 🎹 Piano | Tetris | 🌐 Language Learning |