

WilliamShen

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Passionate software developer driven by creativity and innovative problem-solving to deliver unique tech solutions

SKILLS

Technologies Java, React, HTML, CSS, JavaScript, SQL, R, Python, Pandas, C++, C, C#

Tools IntelliJ, Visual Studio Code, Git, PowerBI, SAS, Flask, Scikit-learn, MongoDB

Interpersonal Initiative, Team Player, Curious, Analytical, Organized, Customer Focused

EDUCATION

University of Waterloo | *Candidate for Bachelor's of Mathematics*

- President's Scholarship

EXPERIENCES AND PROJECTS

Web Developer | *Mississauga Chinese Alliance Church*

Nov 2021 - Sep 2023

- Implemented interactive donation buttons with custom images using **HTML, CSS, and JavaScript** on **Joomla** providing a highly interactive and engaging user experience for **600+** users
- Created a UI-to-code mapping guide to improve site maintainability and navigation efficiency

Web Developer | *Three10 Table Tennis Club*

Dec 2021 - Present

- Designed and launched a comprehensive website using **Wix**, featuring a multi-page layout with a user-friendly navigation bar
- Integrated key website functionalities including a contact form, embedded Google Maps for location visibility, and an image slideshow to showcase services/products, improving user interaction
- Increased site traffic by **29.2%**

Gendently (HackTheNorth)

2024

- Designed and developed a fullstack web application leveraging technologies such as **React, Flask, and Scikit-learn** to predict gender of a given name using machine learning models
- Built a **React.js** frontend to capture user input, integrated with a **Flask** backend API to handle requests, displaying the predicted gender in real time
- Utilized **Axios** to send asynchronous HTTP POST requests from frontend to backend, ensuring smooth user interaction and dynamic updates
- Integrated **MongoDB** as the database for storing user inputs and predictions, efficiently managing data persistence and retrieval on the backend
- Trained gender prediction model using **scikit-learn** on a dataset containing **150,000** names and their corresponding genders
- Used **pandas** for data manipulation and preprocessing and **CountVectorizer** for feature extraction, converting text data into machine-readable format

Competitive Programmer + Problem Setter

Sep 2019 - Present

- Applied a variety of **data structures and algorithms** - Dijkstra's Algorithm, BFS + DFS, Binary Search, Square Root Decomposition, Dynamic Programming, Line Sweep Algorithms, Binary Indexed Tree, Segment Tree, Recursive Backtracking, etc. in **Java, C++, Python** to solve coding problems
- Problem set in the largest contest on DMOJ (**500+** participants) - Invented problems, wrote problem statements, created and tested data for problems

Robotics Camp Supervisor | *Young Engineers*

May 2024 - Aug 2024

- Managed **15+ counselors** and guided **100+ students** aged 4-10 in robotics projects, fostering a collaborative and educational environment
- Designed and implemented daily lesson, crafts, activities focused on robotics, programming, and engineering principles, catering to varying skill levels
- Taught basic programming concepts such as loops, conditional statements, functions, variables, through simple analogies and images

Ready or Not

2023

- Developed an adventurous escape game in **Unity** using **C#**, featuring collectible-based gameplay, to engage players in immersive exploration and problem-solving challenges
- Engineered random map generation and integrated bot pathfinding algorithm to enhance gameplay

3leven

2022

- Created a sliding block puzzle game inspired by 2048 using **Python** and **Pygame** applying an **OOP** approach
- Implemented block merging functionality using a breadth-first search algorithm
- Generated block spawn type and location with random values, adding unpredictability and replay value

Control Find

2022

- Made browser extension to search text across tabs with **HTML, CSS, JavaScript**, improving research efficiency
- Analyzed text matches using various string searching algorithms to optimize search efficiency