William**Shen**

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Passionate software developer driven by creative and innovative problem‑solving to deliver unique tech solutions

SKILLS

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

Tools Visual Studio Code, Git, PowerBI, Flask, Scikit‑learn, MongoDB, Selenium, BeautifulSoup, Joomla, Wix

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

EXPERIENCE

App Developer & Code Sensei | *Code Ninjas*   Jan 2025 - Apr 2025

- Taught various levels of game development on platforms such as **Microsoft MakeArcade**, **Roblox Studio**, and **Unity**, to **70+** kids aged 5‑12 every week
- Increased parent satisfaction by **11%** through engaging teaching, building meaningful relationships with both the students and parents, and refining the curriculum for redundancies and faster progression
- Developed curriculum for **DSA** class, focused on competitive programming — students achieved Distinction Honours in the **CCC**
- Set up class booking services on sites such as **Appointy**, **Acuity Scheduling**, and **Wix**, in order to test and analyze capability in managing multiple parameters including location, time, staff, and duration
- Standardized formatting of human inputted times on **Excel** spreadsheet automatically using **re** and **csv** in **Python**, to input times into scheduling sites

Robotics Camp Supervisor | *Young Engineers*   May 2024 - Aug 2024

- Managed team of **15+ counselors** and guided **100+ students** aged 4‑10 in robotics projects, fostering a collaborative and educational engineering environment
- Designed and carried out daily lesson, crafts, activities focused on robotics, programming, and mechanical principles, catering to varying skill levels

PROJECTS

Communal Catalogue | *Personal*   Jan 2025 - Present

- Designed and developed a full‑stack library management system using **React Vite** and **Firebase** empowering small communities to organize, track, and manage book checkouts easily
- Engineered a real‑time book **Firestore** database, enabling admins to effortlessly add remove book entries
- Integrated the **OpenLibrary API** to automatically fetch book details by ISBN, eliminating manual data entry and improving catalog accuracy
- Built a webcam ISBN scanner using **QuaggaJS**, allowing users to quickly checkout books by scanning barcodes
- Implemented a secure, role‑based authentication system with **Firebase Auth** to manage access for admin exclusive functionalities
- Utilized **GitHub** for version control and seamless collaboration with team members

Gendentify | *HackTheNorth*   Sep 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

Competitive Programmer + Problem Setter | *Solutions*   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++** and **Python** to solve coding problems
- Problem set 2/5 questions in the largest contest on DMOJ (**500+** participants) — invented creative problems, wrote problem statements, and created and tested data for problems, making sure edge cases were considered
- Scrapped all personal accepted solutions using **Selenium** and **Beautiful Soup** to get and filter submissions, and utilized **PyOTP** to automate 2FA login

EDUCATION

University of Waterloo | *Candidate for Bachelor's of Mathematics*   Sep 2023 - Present

- President's Scholarship