JASON ZHANG

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SKILLS

Languages: JavaScript, Java, Python, Elixir, SQL, C++/C, VBA, HTML/CSS

Technologies: Git, React, Node.js, Spring Boot, MongoDB, Firebase, Phoenix, PostgreSQL, Prometheus

Tools: Figma, Postman, Docker, Kubernetes, AWS, Google Cloud, Grafana, Jira, GitLab CI/CD, Oracle, Excel, Power BI

WORK EXPERIENCE

Backend Software Developer @ Loblaw Digital   *(Co-op) Jan 2022 - Apr 2022*

- Applied functional programming and microservice architecture using **Elixir / Phoenix** to create new services for the cart platform, focusing on code quality and maintainability for Canada's largest retail service.
- Independently designed and implemented **metrics monitoring** system for back-end service with **Prometheus,** delivering API performance data to help identify inefficiencies.
- Refactored existing code to streamline application performance for large cart traffic and reduced checkout latency by **10%**.

Software Developer Intern @ Phyxable   *(Part-time) Jun 2021 - Sep 2021*

- Developed online physiotherapy platform using **MongoDB, Express, React, Node.js** and integrated various third-party APIs.
- Coordinated with product manager and designers in **Agile** sprints to develop maintainable software according to client needs.
- Performed test-driven development using unit and integration testing to debug application and ensure user requirements are met.

Data Analyst @ University of Waterloo Graduate Studies & Postdoctoral Affairs   *(Co-op) Apr 2021 - Aug 2021*

- Generated **Power BI** dashboard reports communicating insights and analytics needed to guide critical admission decisions.
- Optimized **SQL** queries and developed a comprehensive understanding of data warehousing methodologies and schemas.
- Wrote **Python** scripts using **pandas** to automate various data cleaning and ETL procedures in Excel.
- Led survey distribution and data analysis project gathered from a sample size of more than **5000** accepted applicants.

PROJECTS

Detective Duck (Winner of Hack the 6ix - Accenture: Most Innovative Use of Tech)   **Link**

- Created a real-time phishing detection application that prevents targeted children from clicking malicious links on the web.
- Pre-processed dataset and deployed the regression-based machine learning model on **Google Cloud**.
- Utilized web scraping tools such as **Selenium** to extract link information and served API requests to the cloud functions.
- Designed a responsive, user-friendly GUI object based on mouse and keyboard detection using the **PyAutoGUI** library.

Campfire   **Link**

- Led a team of 3 to develop a social media application where users connect with each other through daily journaling.
- Designed the UI/UX for application webpages and implemented the design with **React** and **Tailwind CSS** frameworks.
- Created **REST API** endpoints with **Python Flask** and stored user information in a **SQLite** database.
- Established a secure login system by utilizing **JWT** to authenticate users and **bcrypt** to hash passwords.

Decision Support Tool   **Link**

- Developed an **Excel VBA** task management and adaptive scheduling system to automate task delegations in a meeting.
- Directed a team of 4 as the technical lead and applied **Agile methodology**, working in iterative cycles to meet target milestones.
- Conducted user research, gathered client requirements, and assessed existing workflows to design prioritization algorithms.

VizualDB   **Link**

- Developed a command-line tool designed to aid programmers in solving data structure and algorithmic problems.
- Utilized **Python** modules to create a debugging tracer and accessing variable information stored by the interpreter.
- Designed the terminal interface and implemented dynamic visual cues of data structures such as Linked Lists and Binary Trees.

EDUCATION   *Sep 2020 - Apr 2025*

University of Waterloo   *BASc Candidate for Systems Design Engineering with Computing Minor*

- Dean's Honours List
- Relevant Coursework: Algorithm Design & Data Structures (C), Computer Programming (Java), Digital Computation (C++, Python)
- Design Teams: Industry 4.0 (Director of Public Relations), Waterloop (Backend & Internal Services Developer)