Jason Zhang

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SKILLS

Languages: JavaScript / Typescript, Java, Python, C++, C, Elixir, Golang, SQL, HTML / CSS
Technologies: Git, React, Angular, Node.js, jQuery, Flask, Spring Boot, MongoDB, PostgreSQL, Phoenix, Hadoop, GraphQL, gRPC
Tools: Docker, Kubernetes, AWS, GCP, Kafka, Redis, Grafana, Prometheus, GitLab CI/CD, Jenkins, Jest, Datadog, Splunk, Terraform

EXPERIENCE

Backend Software Engineer - *theScore*   *Aug 2022 - Dec 2022*
- Achieved **1st** in company product pitch challenge by defining a community engagement app feature, scoping the technical requirements and software architecture, and presenting the proposal plan to **20+** managers and executives.
- Integrated a real-time stream processing microservice to store **Kafka** messages into **Amazon S3** using **ElastiCache for Redis** with a throughput of **8k messages/second**.
- Optimized database queries in **GraphQL** through caching and batching strategies with **Apollo Client**, leading to a reduction in average request time from 1800 ms to 300 ms.
- Developed a fraud prevention component in **Elixir Phoenix** to verify the geolocation of **4+ million** users for regulatory compliance.
- Integrated **Oban** Dashboard with advanced filtering and sorting, enabling efficient monitoring of distributed task processing system.
- Utilized monitoring tools such as **Datadog** and **Splunk** to accurately investigate and troubleshoot issues in production environments.

Backend Software Engineer - *Loblaw Digital*   *Jan 2022 - May 2022*
- Engineered cart services including catalogue API requests, validation features and pricing engine workflows with **Java Spring Boot.**
- Streamlined webhook system by adding **AWS Lambda** functions to filter and process event messages, reducing payloads by **40%**.
- Independently designed and shipped a **metrics monitoring** system employed by 10-member team with **Prometheus** and **Grafana**, delivering time-series data to capture network performance and identify bottlenecks.
- Refactored existing payment infrastructure to streamline performance for large cart traffic and reduced **checkout latency by 10%.**

Full-Stack Software Developer - *Phyxable*   *May 2021 - Sep 2021*
- Architected major UI overhauls for online physio platform by revamping **15+** core components with **React** and **Redux**, improving code efficiency and application page render speeds up to **30%**.
- Implemented an end-to-end encryption feature for chat messages by applying the Signal Protocol in **Node.js** to ensure user privacy.
- Developed custom API wrappers and middleware using **Express.js** to seamlessly connect the backend with various third-party APIs.

Data Analyst - *University of Waterloo Graduate Studies*   *Apr 2021 - Aug 2021*
- Identified data trends to deliver **Tableau** dashboard reports, communicating insights and metrics needed to guide critical decisions.
- Wrote **SQL** and **Python pandas, NumPy** scripts to automate complex **ETL** procedures, saving **10 hours/week** of manual work.
- Spearheaded survey distribution and data analysis project gathered from a sample size of more than **6000** accepted applicants.

PROJECTS

Detective Duck (Winner of Hack the 6ix Hackathon)   Link
- Created a real-time phishing detection security application that prevents targeted children from accessing malicious web links.
- Preprocessed datasets to train the linear regression-based machine learning model and deployed the project on **Google Cloud**.
- Utilized **Selenium** to scrape web link information, and designed a responsive, user-friendly GUI object based on mouse and keyboard detection using the **PyAutoGUI** library.

Falling Fruit   Link
- Volunteering for the non-profit Falling Fruit project, the world's most extensive geographic dataset of urban edibles (**300,000+** annual users), to compile tree inventories into a single harmonized geospatial dataset for foraging and urban landscape research.
- Constructed **data pipelines** to extract and map large volumes of datasets to target schemas with parsing and matching techniques.

VizualDB Terminal   Link
- Engineered a visualizing command-line tool using **Python** to aid programmers in solving data structure and algorithmic problems.
- Leveraged **trace** and **curses** modules to create a debugging tracer and terminal interface with dynamic visual cues of program state.

EDUCATION

University of Waterloo - *BCS Candidate for Computer Science*   *Sep 2020 - Present*
- **GPA:** 91.8%
- **Relevant Courses:** Object-Oriented Programming (C++), Data Structures & Algorithms (C++), Digital Computation (C++, Python)
- **Design Teams:** Develop For Good (Data Engineer), Industry 4.0 (Tech Lead), Waterloop (Internal Tools Engineer)