

Jing Zhu

Software Engineer

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🔄 [JingZhu89](#)

PROFILE

I'm a full-stack software engineer with a passion for learning new things and solving problems. I have experience building applications using **JavaScript, Ruby, TypeScript, C# and Python** and I'm always curious about new technologies. I love to play games with friends and develop new games/game apps in my spare time. Beyond the screen, I'm a hiker who loves to spend time in nature.

SKILLS

Languages and Framework

JavaScript, TypeScript, Node.js, Express, React/Redux, Ruby, Sinatra, C#, Golang, Python, Flask, Django, Jest, Cypress

Cloud

AWS (Lambda, RDS, S3), Heroku, DigitalOcean, ECS, Fargate

Other Technologies

PostgreSQL, MySQL, MongoDB, Linux, HTTP, OOP, REST APIs, Git/GitHub, Docker, Nginx, HTML/CSS, Tableau, PowerBI

EXPERIENCE

Software Engineer

02/2024 – 02/2024

Driver's License Reader App

<https://github.com/JingZhu89/webcamDLScanner>

- Designed and implemented a web application that takes webcam pictures of driver's licenses and parses out certain fields from the picture (**Python, Flask, JavaScript, React, ECS, Fargate**)
- Built an image processing module using **OpenCV** to normalize images, correct skew, bold unclear words etc. to improve image recognition quality
- Used **EasyOCR** to process the enhanced images and obtain raw data
- Developed a working algorithm that parses the raw data and returns desired fields with consistent performance
- Containerized the app using **Docker** and deployed to **ECS Fargate**

Contributor to Firefox codebase

01/2024 – present

Patches landed (**JavaScript, Python**)

- https://bugzilla.mozilla.org/show_bug.cgi?id=1832792
- https://bugzilla.mozilla.org/show_bug.cgi?id=1633456

Software Engineer

06/2023 – 08/2023

Otto <https://www.otto-etl.com>

Designed, prototyped and implemented Otto, an open-source, **ETL** workflow automation tool for scheduling, executing and monitoring of **ETL** data pipelines (**JavaScript, React, Node.js, MongoDB, PostgreSQL, S3**)

- Wrote a recursive algorithm that orchestrates parallel execution of tasks which increases number of nodes in a workflow from 4 to 30+
- Developed an execution scheduler using **Node-Cron** that automatically runs workflows using cron jobs and restarts cron jobs in the event of server restart
- Constructed a system for acquiring and executing arbitrary user code against multiple sources of data using **Node-VM** which allows users to join and transform data with their own code

- Built a modularized backend that is capable of adding new integrations with minimum changes to existing code base which enables rapid continuous development
- Created metrics and logging for execution history that streams to the frontend in real-time using server-sent events empowering users to diagnose workflow failures and bottlenecks
- Developed an intuitive **React** frontend using **React Flow** that enables users to create workflow in a drag-and-drop manner
- Containerized Otto using **Docker** which allows installation without setting up databases and environment variables, achieving an 80% reduction in installation and configuration time
- Collaborated with a remote team of 4 engineers using an agile workflow. Designed the structure of the backend and led the development of several key components such as the parallel execution algorithm, **S3** integration and so on
- Authored Otto's comprehensive technical case study

Software Engineer

07/2021 – 01/2023

- MessageBin: a real-time application for receiving & debugging webhooks (**WebSocket, Nginx, DigitalOcean Droplet, PM2**)
- eBucket: a database-backed e-commerce app (**React, MongoDB, Node.js**)
- Chew Chew Runs: An endless runner game that features continuous procedural generation of assets such as scenes, obstacles and power-ups (**C#, Unity Engine**)

Senior Manager, Drug Sourcing Risk Analytics

12/2016 – 06/2021

Cigna (Express Scripts)

- Worked with a team of software engineers, designed and implemented a web-based risk management tool that analyzes supply chain risks
- The risk tool facilitated the procurement process for 9% of the US generic pharmaceutical market
- Created and maintained the risk **MySQL** databases
- Designed risk database schema to support business needs
- Performed **ETL** tasks for risk data pipelines
- Created predictive analytical models for supply disruptions (**Python**)
- Built and maintained risk dashboards in **PowerBI**

EDUCATION

Masters of Science in Supply Chain Management

2015 – 2016

Washington University in St. Louis

Bachelor of Finance and Operations Management

2008 – 2012

Singapore Management University