

Jing Zhu

Software Engineer

✉ jing.harrell@gmail.com 📍 St.Louis, Missouri 🌐 <https://jingzwork.space> in jingzhumsscm 🌱 JingZhu89

PROFESSIONAL EXPERIENCE

Creator, Software Engineer

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

- 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 recursive algorithm
- Authored Otto's comprehensive technical case study 🌱

Software Engineer

2021 – 2023

Self-employed

A few of the projects & technologies used during this time:

- MessageBin: a real-time application for receiving & debugging webhooks (WebSocket, Nginx, DigitalOcean Droplet, PM2)
- eBucket: a database-backed e-commerce app (React, MongoDB, Node)
- 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

2016 – 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 SQL databases, performed ETL tasks for the risk data pipeline

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

SKILLS

Languages and Framework

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

Cloud

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

Other Technologies

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