Arno Cai

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🪪 PROFILE

I am a result-driven software engineer who loves learning and using new technologies to build solutions to complex problems. With experience working with fast-paced teams in self-driven environments, I leverage not only my technical background, but also effective communication, team-leading, and other interpersonal skills to drive project success. Dog lover, basketball aficionado, dance enthusiast.

💼 EXPERIENCE

Willow, *Software Engineer & Creator*   2024 – present

Willow is an open-source framework for building Change Data Capture pipelines. It reflects database changes to a cache in near real-time. Read more at https://willow-cdc.github.io/ 🔗

- Architected and implemented a RESTful API, facilitating pipeline creation and teardown (Node.js, Express).
- Designed and constructed a custom Kafka connector to transform Kafka events and send to a cache (Node.js, KafkaJS, Redis).
- Resolved Debezium configuration issues which prevented multiple pipelines from connecting to the same database (PostgreSQL, Debezium).
- Ensured Willow works properly when provided a minimum privileged database user, avoiding the need to provide Willow with superuser privileges.
- Built user-friendly UI that streamlines pipeline management (React, Material UI).
- Authored technical case study, providing an in-depth analysis of Willow's problem domain, system design, and engineering decisions (willow-cdc.github.io/case-study 🔗).

Software Engineer, *Self-Employed*   2022 – 2024

Developed various personal and open-source applications, including:

- *Lasso* – A webhook monitoring tool (DO Droplet, Nginx, MongoDB, PostgreSQL, Node.js, PM2, Express, React).
- *Kindred* - An app for storing, updating, and searching contacts (JavaScript, Express, HTML, CSS, Handlebars).

Harvard University, *Research Project and Data Assistant*   2020 – 2023

- Used novel method to identify Psychiatric Mental Health Nurse Practitioners (PMHNPs) within Medicare Part D data, showing that PMHNPs are offsetting the shortage of psychiatrists. Published in *Health Affairs* and featured in various media outlets.
- Retrieved and analyzed healthcare data from the Stanford PHS Server, advancing project on relationship between oncology specialization and patient outcomes. Presented preliminary results in the 2022 AcademyHealth Conference. Poster won Best Poster under the "Health Workforce" theme.

🧠 SKILLS

Front-end — JavaScript/TypeScript, React, HTML/CSS, jQuery, Handlebars

Back-end — Golang, Python, PostgreSQL, MongoDB, RESTful APIs, Node.js, Express

Other tools — Git/GitHub, Docker, Linux, Bash, DigitalOcean Droplets, Nginx, Postman, Apache Kafka, Debezium, Jest, Stata, Object-Oriented Programming

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🎓 EDUCATION

Williams College   2015 – 2019

B.A. in Economics & Asian Studies, Magna Cum Laude

Relevant Coursework: Data Structures & Algorithms, Agile Software Development, Systems Development for Computational Science, Linear Algebra, Probability Theory, Statistical Inference, Abstract Algebra, Real Analysis.