



Arno Cai

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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).
- Built user-friendly UI that streamlines pipeline management (React, Material UI).
- 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.
- 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 ).
- Collaborated with a remote team of four engineers across different countries and time zones.

Software Engineer, Self-Employed 2022 – 2024

A selection of the open-source projects developed during my career transition:

- *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.

Family Restaurant, Multiple Roles 2015 – 2019

- Handled all the front-facing customer interactions, as well as communicate with employees by translating English to Chinese in a fast-paced environment.
- Ensured restaurant team stayed organized and maintained composure, especially in peak hours.

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

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.