

Mai Khuu, PharmD

Software Engineer

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PROFILE

I am a passionate and result-driven software engineer with experience in designing scalable and robust full-stack applications. Leveraged a comprehensive skill set, including problem-solving, effective communication, and team-leading, to drive project success. Cat person, thespian, karaoke singer.

PROFESSIONAL EXPERIENCE

Co-Creator/Software Engineer, Laridae (laridae-migrations.github.io) 2023 – present

Laridae is an open-source tool offering zero-downtime, reversible, schema migration in PostgreSQL with prebuilt integration into GitHub Action workflows.

- Utilized PostgreSQL views, triggers, and connection control functions to allow different application versions with different schema requirements to use the same database simultaneously.
- Leveraged Multi-version concurrency control to avoid schema migrations interfering with regular database traffic.
- Conducted load testing with simulated traffic for databases up to 10 million rows.
- Designed and implemented a custom **GitHub Action** that streamlines CI/CD integration with AWS infrastructure deployment and removal, utilizing **AWS CLI, ECS Fargate, ALB, VPC, IAM roles, Security groups, RDS, ECR, Docker, and Terraform**, among others to reduce a 30-step workflow to one command.
- Authored a comprehensive case study discussing Laridae's problem domain, system design, and key engineering decisions. This case study is available at laridae-migrations.github.io#case-study
- Collaborated remotely with a team of three engineers through daily standups and mob programming sessions.

Full Stack Web Developer, Self-employed 2020 – present

Independently developed open-source applications including:

- **BinVitation** - A webhook receiver service to collect and inspect HTTP traffic sent to a generated endpoint (**Node.js, Express, Tailwind CSS, CockroachDB, REST API, DigitalOcean, Ngrok, Nginx**)
- **ApplianceWiz** - A CRM solution tailored for appliance repair businesses with an integrated resource allocation protocol (**Ruby, Sinatra, PostgreSQL, Encryption Management, HTML, CSS**)

Office Systems Coordinator, Fast Appliance Rescue 2020 – 2022

- Managed software systems, including CRM, advertising, and accounting applications, integrated with Google Analytics, optimized for SEO to rank in the top 10 Google Searches for appliance repair services at targeted locations.
- Collected, analyzed data, and implemented data-backed business decisions to grow from a 2 technician operation to a half-a-million business in 2 years.

Community Pharmacy Practice, CVS Pharmacy 2015 – 2020

- Managed daily pharmacy operations at medium to high-volume stores, including keeping records and inventory, optimizing workflow efficiency, and ensuring regulatory compliance
- Conducted vigilant drug reviews and communicated with other healthcare providers, as well as patients, about possible drug interactions and side effects.

SKILLS

Frameworks (Sinatra, Express, Node, React, REST API, SQL, HTML, CSS, Tailwind), **Databases** (PostgreSQL, MongoDB, CockroachDB), **Cloud** (AWS EC2, ECS, Lambda, RDS, Dynamo, ALB, IAM, VPC, etc.), **Programming Languages** (Ruby, Javascript, Go, Python), **Misc** (Linux, bash, Git / Github, Docker)

EDUCATION

Doctor of Pharmacy, Purdue University

2018 | West Lafayette, IN