

Paul Walker

Backend Software Engineer

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SKILLS

Golang, Python, Typescript/JavaScript (ES6+), SQL (PostgreSQL), NoSQL (MongoDB), Node/Express, ORM (pg, @databases/pg, mongoose), Bash, Git/Github Flow, CircleCI, Testing (Jest, Supertest, GO), Docker, AWS, Cloudflare

WORK EXPERIENCE

Software Engineer - Kubby Buddy (OSLabs)

2023 – Present

- Created a containerized PostgreSQL database, enabling local data storage and retrieval for user-specific metrics, enforcing strict schema design to optimize query performance and ensure seamless user experience
- Built modular Express routes to manage container, image, and volume workflows, implementing precise controls like starting containers, retrieving logs, and managing volumes, ensuring a clean and maintainable backend structure
- Leveraged TypeScript to create strict, reusable custom types, building a modular application, simplifying feature development, and ensuring consistency, while achieving 95% type coverage and enhancing code reliability
- Implemented unit testing with Jest and Docker DIND containers validating functionality in Docker environments, ensuring reliable container operations and achieving 100% backend coverage, reducing debugging time for the team
- Configured CircleCI to automate build and testing pipelines, ensuring early error detection and streamlined workflows, empowering developers with confidence in the application's stability and functionality
- Automated commit hooks using Husky bash scripts to enforce branch naming conventions, format staged files, and validate commit messages, ensuring adherence to best practices and streamlining the development workflow
- Led the implementation of Cloudflare's domain services and workers, leveraging the power of the Wrangler package for static site hosting achieving 100% uptime and reducing bandwidth consumption by 23% over 30 days

OPEN SOURCE PRODUCTS

Family Reunion Web App | A secure web app for managing family tree and connections

2024 - Present

- Integrated AES-256-GCM encryption with AWS KMS to secure all sensitive backend data, ensuring compliance with industry-standard security protocols and 100% encryption coverage for all stored and transmitted data
- Designed recursive SQL views to efficiently structure and retrieve complex familial relationships, reducing data retrieval time by pre-organizing data for direct frontend consumption, minimizing server-side processing in Golang
- Engineered a scalable API in Golang to serve structured family tree data, ensuring optimized query performance and seamless integration with a mobile-first React frontend for responsive and dynamic data visualization

Conjure Animals | A web app to choose an animal with the conjure animals spell

2023

- Implemented Golang to optimize API performance, achieving an extraordinary 85% reduction in average response time, resulting in a high-speed API with an average response time of just 45 milliseconds
- Segmented a single-page application into reusable React components, optimizing modular design to streamline development and achieve 94% code reusability

Study with Me | Keep focused with centralized notes and study

2023

- Architected a MongoDB database to optimize user content storage utilizing the document-like structure and Mongoose schema to enforce data consistency, enhance system responsiveness, and improve user experience

EDUCATION AND TALKS

Codesmith - Advanced Residency for Software Engineering

2023

SQL Database Modeling - Presented a talk to 60+ engineers on connecting SQL tables.

2023

INTERESTS

Using a Home Lab Server for Personal Projects | Enjoying video games with friends | Making food for myself and family | Playing DnD both as DM and a Player | Building PCs with custom water loops | Managing and leading a FFXIV static