Stephanie McCollom

Software Engineer

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PROFESSIONAL EXPERIENCE

Backend Software Engineer, *Precise Systems* 2024 – present

Developed and maintained scalable, secure backend components using PHP for government clients' high-traffic web application, collaborating with a fully remote team.

- Built a secure, microservice-based authentication system in PHP with CAC login and Redis-backed sessions, ensuring robust, scalable user authentication, expected to handle thousands of concurrent users with 100% unit and integration test coverage.
- Implemented dynamic categorical filtering for search processes, improving query efficiency by 30% and user experience, with 100% unit and integration test coverage.
- Applied Domain-Driven Design (DDD) to structure authentication and identity domains, enhancing scalability and supporting multiple user types and workflows across services.
- Became the Login.gov Subject Matter Expert (SME), leading the integration of Login.gov SSO via OpenID Connect into the authentication system, ensuring secure, scalable login and compliance with federal standards.
- Designed API route tables and request/response mappings using Swagger, ensuring standards-compliant, consistent interfaces, and improving API maintainability and scalability.
- Mentored junior engineers and performed code reviews, enforcing best practices and maintainable code, while improving team productivity and enabling CI/CD pipelines via GitLab and deployment to AWS for reliable and faster releases.

Software Engineer, *Laridae* 2023

Engineered Laridae, an open-source tool (Ruby) offering zero-downtime, reversible database schema migration for PostgreSQL integrated into a deployment pipeline (AWS) hosted on GitHub Actions.

- Achieved 99% uptime during migrations by leveraging PostgreSQL's multi-version concurrency control to avoid interfering with regular database reads and writes from the application during migrations.
- Leveraged PostgreSQL views, triggers, and connection control functions to enable multiple application versions with different schemas to utilize the same database concurrently, enhancing front-end compatibility.
- Executed load testing on Laridae by conducting schema migrations on datasets of up to 10 million rows while simulating traffic, resulting in a 20% performance optimization (RSpec, Ruby).
- Created a GitHub Action integrating Laridae schema migration functionality with AWS infrastructure deployment (ECR, AWS CLI, ECS Fargate, Docker, IAM roles, Terraform) into a CI/CD pipeline, reducing a 30-step workflow into a single command, enhancing deployment efficiency by 90%.

Software Engineer, *Self-employed* 2020 – 2023

Utilized a diverse tech stack, including Kotlin/Ktor, Python-Django, Ruby on Rails, MERN and LAMP to develop high-quality web apps.

- Built a tool for collecting, inspecting, and debugging HTTP and webhook requests with an intuitive interface and robust infrastructure (React, Express, MongoDB, PostgreSQL, Digital Ocean droplet via NGINX using PM2).
- Troubleshooted, debugged, and re-factored promotional logic in an e-commerce sites' backend, enhancing the resilience of the codebase segment (Ruby).

SKILLS

Ruby, Ruby on Rails, Python, Django, JavaScript, TypeScript, React, StimulusJS, Node.js, Express, Kotlin, Ktor, PHP, Go, HTML/CSS, PostgreSQL, MongoDB, MariaDB, Redis, AWS (ECS, EC2, IAM, Fargate, RDS, S3), Digital Ocean, Terraform, Docker, Podman, Bash, NGINX, Apache, Git, GitLab, GitHub, Jira

EDUCATION

Launch School 2020 – 2023

Multi-year, mastery-based software engineering curriculum. Read more at launchschool.com/employers

Purdue University 2008 – 2012

B.S. Computer Graphics, minor Art & Design