Riley Stewart
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SUMMARY

Backend/systems engineer with >8 years of experience operating and scaling data-intensive cloud platforms, developing products, and shepherding distributed infra. Adept at examining complex systems and learning how they work. Looking for meaningful work with ownership of technical outcomes.

WORK EXPERIENCE

Senior Software Engineer |Ai-RGUS | Remote | *2024-2025*
- Optimized legacy PHP stack using Redis caching and MySQL normalization to reduce DB load by ~20%.
- Solved concurrency issues and augmented logging facilities in a multiprocessing Python daemon that was deployed for thousands of clients.
- Advanced containerization in Docker Swarm by creating specialized tools and setting up a test environment.

Senior Software Engineer | Johnson Controls | Remote | *2018 - 2024*
- Owned system components of a mature cloud video surveillance platform, including Node.js backend, REST APIs, edge device firmware, and security, while also contributing to Angular.js/React front-ends and feature development.
- Solved scaling issues as the platform went from 4000 to 12000 cameras and more customers used cloud storage.
- Operated Azure-hosted infrastructure consisting of Linux VMs, k8s/docker containers, ML models, SQL Server, and Redis.
- Communicated directly with small and large customers to solve complex issues involving large site installations.
- Led SAML-based SSO integration for Wayfair by gathering requirements and testing with their operations team.
- Initiated in-house monitoring systems to detect and triage problems before they reach support or impact the petabyte-scale video storage pipeline (upload/stream/cleanup).
- Delivered features that generated revenue, including a cold storage system supporting up to 5-year video retention that comprised ~10% of subscription income.
- Automated build and deployment system with scripts, requiring less individualized knowledge and fewer steps.
- Championed security and open-source compliance by updating hundreds of NPM-based vulnerabilities in legacy projects.
- Expedited team velocity with documentation, regular office hours, and PRs.

Software Engineer | Smartvue Corporation | Nashville, TN **|** *2016 - 2018*
- Maintained a residential cloud video surveillance system with thousands of customers for Cox and Time-Warner Cable.
- Investigated low-level hardware failures and filesystem issues on Linux-based ARM edge devices.
- Navigated the transition from a startup to enterprise after Smartvue's acquisition by Johnson Controls.

PROJECTS

Weightscan | github | blogpost | *2024 - Present*
- Visualization of Transformer hidden states via custom PyTorch autoencoder and Three.js.

Simulabra | github | *2022 - Present*
- Experimental object-oriented programming system for Javascript combining Smalltalk-style messaging and CLOS-style slots.

Operat | github | *2022*
- Prototype implementation of the Kernel programming language in Javascript.

Trippi | landing page | Harvard ilab announcement | *2019 - 2020*
- Itinerary planning startup with a Typescript/PostgreSQL backend and React frontend. Incubated at Harvard iLab.

EDUCATION

Vanderbilt University | Bachelor of Science in Computer Science | *2013 - 2016*

SKILLS

Core: Javascript, Node.js, Linux, SQL Server, MySQL, Azure, Redis, HTML, Bash, Docker, Python

Touched on: PHP, AngularJS, InfluxDB, SAML, Stripe, Ansible, Jenkins, x509, Ffmpeg, Nginx, Systemd, CSS, Java, Kubernetes

Explored: Rust, Typescript, Lisp, C, C++, PostgreSQL, Sqlite, React, Tailwind, PyTorch, Numpy, Godot, Unity, C#, Java, Ruby, AWS, LLMs, HF Transformers, Next.js, Lua, Three.js, Llama.cpp, Bun