Richard Alan Sartor, Jr.

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Professional summary

Senior Distributed Systems and Infrastructure Engineer with 18+ years of experience designing and operating production-grade backend platforms in cloud and regulated environments. Deep expertise in Python services, container orchestration, and infrastructure-as-code. Proven record leading multi-environment migrations and building reliable, observable systems supporting data and analytics workloads. Strong interest in machine learning infrastructure and experimentation systems.

Technologies & Core Competencies

- Languages: Python, C#, Go
- Cloud & Orchestration: Kubernetes, AWS (ECS, EKS, S3), GCP
- Data & Storage: PostgreSQL, BigQuery, DBT, SQLAlchemy
- Observability & Monitoring: Prometheus, Grafana, Datadog
- Web & Networking: gRPC, Nginx
- CI/CD: GitHub Actions, Jenkins, Bazel, Starlark
- Infrastructure & Tools: Docker, Terraform, Ansible, Flask, OpenGL, X12 270/271, Jira, Slack APIs
- Core Competencies: Distributed and parallel systems design; data-intensive backend architectures; infrastructure-as-code; CI/CD for compute workloads; observability-driven operations; machine learning systems fundamentals (training vs. inference, evaluation workflows, experimentation patterns).
- ML Systems Exposure: Model serving, inference APIs, configuration-driven experimentation, LLM integration workflows.

Employment History

Metaphysics Industries, Inc. – Founder & Principal Engineer (Oct 2006 – Present)

Independent software engineering consultancy focused on backend systems, cloud infrastructure, and computational tooling.

- Created and open-sourced FbxSharp, a pure C# FBX file loader with structured object mapping and SDK interoperability; published via NuGet and used in independent 3D tooling and game development workflows.
- Developed and open-sourced ChamberLib, a modular .NET 3D engine framework including rendering abstractions, animation systems, camera control, math primitives, and asset integration; currently used in development of an original game.
- Designed and implemented Solus, a symbolic algebra engine supporting expression trees, simplification, and evaluation; integrated with custom parsing and UI layers.
- Built and open-sourced MetaphysicsIndustries.Giza, a GLR-style parser engine enabling ambiguous grammar handling and dynamic parse tree construction; used by Solus for mathematical expression parsing.
- Developed Ligra, an interactive UI layer for symbolic math visualization and exploration, built atop the Solus engine.
- Developed Python web applications (Flask, SQLAlchemy), including containerization, database configuration, HTTPS setup, and infrastructure provisioning with Terraform and Kubernetes.
- Managed environment configuration and deployments using infrastructure-as-code practices.
- Implemented production monitoring with Prometheus and Grafana.
- Built a lightweight REST service around `llama.cpp` (via `llama_cpp_python`) to expose local LLM inference as a configurable model-serving API.
- Containerized and extended OpenCode into a self-hosted coding assistant, integrating it with RocketChat to enable conversational development workflows.
- Implemented configurable model selection, context management, and logging to support lightweight experimentation and usage analysis.

Accorded, Inc. – Senior Data Engineer I (Sep 2025 – Feb 2026)

- Operated and maintained healthcare analytics and data transformation pipelines using BigQuery and DBT.
- Supported reliable execution of data workflows operating on multi-gigabyte datasets in a HIPAA-regulated environment.
- Contributed to query performance improvements and data model consistency in collaboration with analytics stakeholders.

Global Goods Exchange, Inc. – Full Stack Engineer (May 2024 – Aug 2025)

- Led migration of 10–15 microservices from GCP to AWS EKS across four environments (development, staging, demo, production), rebuilding infrastructure as code using Terraform.
- Standardized containerized deployment workflows, improving environment parity and deployment reliability.
- Automated database migration and release processes to reduce operational risk.

- Contributed to backend services in Go and internal tooling in Python supporting production operations.
- Strengthened system observability and operational stability during multi-cloud transition.
- Built custom Bazel build rules to automate Go service builds and deployments, integrating Terraform and Python scripts into a unified command that significantly reduced manual deployment steps and errors.

Mental Health EHR Start-up – DevOps Engineer [Contract] (Aug 2022 – May 2024)
- Led containerization and migration of a 30+ service healthcare platform to AWS ECS, upgrading two of three environments while maintaining operational continuity in a HIPAA-regulated setting.
- Designed VPC, IAM, and network segmentation patterns enforcing strict data confidentiality requirements.
- Architected Terraform-managed infrastructure enabling secure, repeatable multi-environment deployments.
- Implemented automated CI/CD pipelines using GitHub Actions to streamline release workflows.
- Integrated Datadog observability to improve reliability, latency tracking, and operational transparency.
- Produced long-term infrastructure documentation and deployment standards supporting team scaling.

Meet Nirvana – Software Developer [Contract] (Nov 2023 – Feb 2024)
- Developed a Python library for converting healthcare eligibility transactions between X12 (270/271) and non-standardized JSON formats.
- Built CLI tooling to analyze and transform complex JSON document structures.
- Implemented repository security controls using git-crypt to protect sensitive credentials.

Food Delivery Start-up – DevOps Engineer [Contract] (Apr 2022 – Aug 2022)
- Integrated PostgreSQL performance metrics with Prometheus.
- Designed Grafana dashboards to monitor database and Kubernetes cluster health.
- Implemented GitHub Actions workflows to automate deployment notifications and operational alerts.
- Configured Prometheus alerting to proactively detect infrastructure failures.

Enterprise Analytics Firm – Performance QA Engineer [Contract] (Jul 2021 – Mar 2022)
- Automated performance benchmarking of legacy desktop applications during migration to web services.
- Extended k6 testing framework to support TypeScript-based distributed load testing.
- Designed repeatable performance evaluation workflows for distributed service validation.

Fortune 100 Health Insurer – QA Engineer [Contract] (Jun 2020 – May 2021)
- Developed a Python-based integration testing framework for containerized gRPC microservices running in Docker and Kubernetes.
- Managed CI/CD pipelines executing multi-stage test suites and publishing results to AWS S3.
- Automated failure triage workflows, including Jira ticket creation and Slack notifications.
- Coordinated with operations teams to ensure test infrastructure availability across environments.

Tech Mahindra – Senior Test Engineer (Jul 2019 – Dec 2019)
- Lead maintainer of an internally-developed performance testing platform that ran on OpenShift/Kubernetes. Supported the dev team by writing tests and custom testing libraries for the specific needs of projects.

Rackspace US, Inc. - San Antonio, TX – Software Developer in Test III (Jan 2012 – Jul 2019)
- Developed custom testing libraries and automation frameworks for large-scale hosted systems.
- Created and maintained Jenkins CI pipelines supporting multiple engineering teams.
- Designed Deproxy, a testing tool for validating reverse proxy behavior in distributed environments.
- Collaborated cross-functionally with developers, operations engineers, and product managers to ensure reliability and delivery alignment.

Publications

Agaian, S., **Sartor, R**. (2012) Local Enhancement and Denoising Algorithms on Arbitrary Mesh Surfaces. *Proceedings of SPIE Vol. 8406 Mobile Multimedia/Image Processing, Security, and Applications 2012*. Baltimore, MD. April 23-24, 2012

Education

Bachelor of Science Degree in Electrical and Computer Engineering
University of Texas San Antonio – December 2008