

Erik Ziegenbalg

COMPUTER SCIENTIST

CONTACT

📍 San Francisco, CA
🐙 github.com/ziegenbalg

EDUCATION

Computer Science

University of California,
Santa Cruz

2010 - 2014

SKILLS

// Programming Languages

- C [packet programming, forwarding planes]
- Rust [axum, tokio, serde, rayon, crossbeam]
- Python/Perl/Bash/GO

// Operating Systems & Architectures

- Linux
- Fuchsia
- X86 / ARM

// Data Processing

- Intel SPDK
- HP DAOS

// AI, LLM & Foundation Models

- Claude API / Anthropic SDK
- Agentic workflows & MCP
- RAG & retrieval pipelines
- LLM application architecture
- Prompt engineering & evals

// Machine Learning

- PyTorch & TensorFlow
- CNN/RNN/PPO architectures
- End-to-end ML pipelines

PROFILE

Systems engineer with 10+ years building distributed infrastructure, from network operating systems at AT&T/Brocade to AI-powered platforms. I specialize in taking ambiguous technical problems in complex environments and making them tractable—bridging the gap between what teams say they need and what they actually need. Currently focused on foundation model integration, agentic development workflows, evaluation frameworks, and production AI systems.

WORK EXPERIENCE

Linux Operating System Service Owner (Contract)

Johnson & Johnson | 2024 - 2025

- **Owned the Ubuntu-based Linux platform-as-a-service** end-to-end for J&J's Manufacturing Labs & Logistics division — reporting to three senior directors and directing a tiered L1-L3 technical support organization across global manufacturing sites
- **Defined product vision and multi-year roadmap** for the standardized OS platform, translating business, operational, and regulatory needs into prioritized capabilities while balancing reliability, security, cost efficiency, and GxP / 21 CFR Part 11 compliance
- **Authored both the executive roadmap and engineering implementation guides** for GxP-compliant environments — driving architecture decisions from initial evaluation through production deployment
- **Designed cloud-integrated deployment architecture on AWS** — App Runner-hosted frontends, FastAPI services over VPC connectors and Site-to-Site VPN to on-prem build infrastructure, Lambda for event-driven verification, and DynamoDB for build-state persistence — supporting Ottawa and Monarch robotic medical systems with 25% reduction in technical downtime
- **Directed cross-functional delivery** across DevSecOps, IT, manufacturing engineering, and L1-L3 support — shipping the unified platform with a 90% reduction in deployment overhead
- **Pioneered the AI-enabled Linux image build pipeline** — an LLM-driven, RAG-backed recipe-to-ISO workflow that retrieves from a curated corpus of approved configurations and benchmarks, composes new images on natural-language intent, and runs automated GxP verification
- **Architected ServiceNow enterprise integration** connecting the Linux OS deployment lifecycle to J&J's change management, CMDB, GRC, and Incident Management modules — with OAuth 2.0 Client Credentials, bidirectional webhook sync for CR approval gating, and drift-to-priority mapping (P1-P4) supporting 21 CFR Part 11 auditability

Senior Software Engineer

ViaSat | 2022 - 2024

- **Built customer-facing networking-configuration services** as containerized microservices on AWS (EKS for orchestration, Lambda for event-driven workflows, DynamoDB for state, SQS for asynchronous processing) — designed for horizontal scale, multi-tenant deployment, and integration with the broader networking control plane
- **Operated the services in production end-to-end** — Kubernetes (EKS) deployments, Terraform-managed AWS infrastructure, CI/CD pipelines, observability instrumentation (Prometheus, Grafana, OpenTelemetry, DataDog), and on-call response — driving reliability improvements over each release cycle
- **Drove technical-design reviews and cross-team alignment** with networking, platform, and product teams to ship features that materially expanded the configuration toolkit available to enterprise customers

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SKILLS

// Cloud & Networking

- AWS (EKS, Lambda, DynamoDB, SQS, Terraform)
- AWS App Runner, VPC, Site-to-Site VPN
- Azure, GCP
- Kubernetes, Docker, Containerization
- Microservices, REST APIs, event streaming (Kafka)
- Observability (Prometheus, Grafana, OTel, DataDog)
- PKI's, L2/L3 VPN's, BGP, IPSEC
- Intel DPDK, Linux cgroups
- 5G/LTE/RF, Delay Tolerant Networks

// Config Systems

- Vyatta's in house golang/dbus component interface VCI (Yang based)
- Shift Left, Simulation/Test Driven Development

WORK EXPERIENCE (CONTINUED)

Sr. Member of Technical Staff

AT&T | 2017 – 2022

- Engineered PPPoE and OCSP+stapling data-plane acceleration modules in Intel DPDK on AT&T's carrier-grade network OS, accelerating the authentication-handshake hot path
- Developed RFC7950 YANG-based data models for critical system utilities (RAID, disk encryption), unifying the configuration interface across system components
- Architected standalone system services on Vyatta's component interface (VCI), enabling seamless dbus communication across Go, Python, and C++ components in the same dataplane
- Managed technical continuity through the Brocade-to-AT&T acquisition, keeping network OS development on track during the transition

Sr. Software Engineer

Brocade Communications Systems | 2014 – 2017

- Engineered BPF packet load balancing and filtering across distributed forwarding planes — optimizing traffic distribution at carrier-grade throughput
- Implemented SDN, DMVPN, and MPLS switched distributed forwarding planes, modernizing the legacy carrier networking stack
- Developed gnulib NSS extensions and Linux OS integration layers, embedding Network OS functionality into a standard Linux distribution
- Implemented modern build systems for the network OS toolchain, streamlining the dev-test-deploy workflow

REFERENCES

Jim Gosnell

VP of Programs
ViaSat

Rob Smets

MLL Workstation Service Owner
Johnson & Johnson

Dan Winterburn

Lead DevSecOps Engineer
Johnson & Johnson

Jason Sirju

L3 Technician, MLL Factory & Labs
Johnson & Johnson

Tony Malott

Global Service Owner
Johnson & Johnson

Michael Palomino

IT Manager, MLL Factory & Labs
Johnson & Johnson

Sean Meacher

Lead DevSecOps Engineer
Johnson & Johnson