Gian Zignago

gianzignago@gmail.com | (314) 780-0913 | linkedin.com/in/zignago | Active TS/SCI Clearance

EXPERIENCE

Software Engineer III Feb 2025 – Present

General Atomics *Denver, CO*

- Architected InfluxDB for dual-satellite mission with optical comms payload, designing schema for 300+ telemetry parameters across ADCS/EPS/TTC/Radio at Gbps throughput and reducing query times by 85%
- Built Python ETL pipeline processing S3 downlink data to InfluxDB line protocol at 1Hz ingestion rate across 4 subsystems, reducing anomaly diagnosis time from 2 hours to <5 minutes (95% improvement)
- Designed tag-based data model with vehicle, service, and subsystem partitioning that reduced cross-service query times by 85% and enabled instant SV1/SV2 satellite comparisons
- Led HWIL testing for Enpulsion dual-mode ion propulsion system, developing Python binary telemetry decoders and automated test sequences validating thruster commands, register states, and feedback loops

Software Engineer II May 2023 – Dec 2024

Cisco *San Francisco, CA*

- Architected real-time telemetry aggregation pipeline in Ruby processing device health metrics from 100K+ distributed network devices at 10K+ events/second using Kafka and PostgreSQL
- Optimized time-series database performance for telemetry storage, redesigning indexing and retention policies to reduce query times by 30% while handling 500GB+ daily data ingestion
- Built scalable backend services for cloud management platform, implementing RESTful APIs and microservices architecture with 99.9% uptime serving 10K+ customer organizations
- Designed and deployed CI/CD pipelines using Jenkins and GitLab, implementing automated testing and canary deployments that reduced deployment cycle time by 30% and improved release reliability
- Implemented monitoring infrastructure using Prometheus, reducing MTTR for production incidents by 60%

Software Engineer Intern May 2022 – Aug 2022

Johns Hopkins University Applied Physics Laboratory *Laurel, MD*

- Developed C++ real-time simulation environment integrated with hardware-in-the-loop (HIL) test systems, enabling early detection of integration issues before costly physical testing and reducing development iteration time by 30%
- Developed automated testing for GNC flight systems using Python and MATLAB, reducing validation cycle time by 80%

Software Engineer Intern May 2021 – Aug 2021

SpaceX *Hawthorne, CA*

- Built network emulation platform for Starshield, enabling simulation of 100+ satellite constellation networks at Gbps line rates without requiring hardware testbeds, reducing integration costs by $100K+ per test campaign
- Developed Linux traffic control and priority queueing system for multi-tenant satellite network simulation, enabling realistic modeling of network congestion and Quality-of-Service constraints for mission-critical vs. bulk data transfers

TECHNICAL SKILLS

Languages: Python, SQL, Flux, Bash, Ruby, C++

Tools & Technologies: InfluxDB, Grafana, Prometheus, AWS GovCloud (S3, EC2, RDS, IAM, VPC), Docker, Foxglove, PostgreSQL, MySQL, Kubernetes, Terraform, Redis, Kafka, OpenC3 Cosmos, Git, GitLab CI, Linux/RHEL, boto3, podman, ROS, OpenCV

EDUCATION

Master of Science in Computer Science | University of California, Los Angeles (UCLA) Dec 2024

Bachelor of Science in Computer Science | University of Missouri May 2023

LEADERSHIP

M³ CubeSat Mission | Software Team Lead Nov 2019 – May 2023

- Led software development for LEO CubeSat mission (1st place UNP Nanosat-8), successfully launched March 2024 on SpaceX Falcon-9 and currently operational in 13-year orbit demonstrating dual-mode electric propulsion technology
- Architected C++ flight software for GNC/Comms/C&DH systems, converted MATLAB code for hardware deployment, integrated NASA 42 Simulator for validation, and developed Docker-based ground station for UHF telemetry