

Gian Zignago

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EDUCATION

Master of Science in Computer Science University of California, Los Angeles (UCLA)	Sep 2023 – Dec 2024
Bachelor of Science in Computer Science University of Missouri	Aug 2019 – May 2023

SKILLS

Languages: Go, Python, Rust, SQL, Bash

Infrastructure & Orchestration: Kubernetes, Docker, Terraform, AWS (S3, EC2, Lambda), GCP, Linux, Helm, Istio

Data, Messaging & Observability: Prometheus, Grafana, Kafka, RabbitMQ, InfluxDB, PostgreSQL, Redis, gRPC

EXPERIENCE

General Atomics | Software Engineer III Feb 2025 – Present

- Architected distributed streaming pipeline processing 200GB/cycle from 50+ edge nodes across contested networks, implementing exactly-once semantics with Kafka and achieving <2 minute end-to-end latency for time-critical analytics
- Engineered fault-tolerant ETL pipeline with idempotent processing and distributed checkpoint management, achieving zero data loss across 30+ production runs and enabling 24/7 autonomous operations without on-call intervention
- Designed self-service data platform enabling 6 engineering teams to deploy analytics workflows without infrastructure changes, reducing deployment cycles from days to hours through Kubernetes operators and Terraform modules
- Instrumented custom Kubernetes operators and CRDs for automated pipeline lifecycle management, implementing reconciliation loops for health checks and resource scaling across 50+ pods, reducing manual intervention by 80%
- Built observability platform using Prometheus and Grafana with custom exporters, reusable templates, and automated alerting via Terraform, reducing MTTD from 2 hours to 15 minutes and enabling real-time performance debugging

Cisco Meraki | Software Engineer Intern, Distributed Systems May 2024 – Aug 2024

- Implemented distributed tracing across ML inference pipeline using Istio service mesh, enabling request-level latency attribution across 12-hop service chains and reducing MTTD for regressions from 45 minutes to 10 minutes
- Developed Go-based observability platform aggregating gRPC telemetry and service mesh metrics, providing ML teams self-service access to p50/p95/p99 latency across 20+ model endpoints and reducing cross-team debug cycles by 40%
- Created Helm chart library with templated resource limits, health checks, and Istio sidecar injection standardizing Kubernetes deployment patterns across 8 teams, eliminating 2 hours of manual configuration per deployment

Cisco Meraki | Software Engineer Intern, Backend Infrastructure May 2023 – Aug 2023

- Designed distributed rate limiting system for Meraki Dashboard API using Redis Cluster and Go with client-side token bucket algorithm, protecting 20+ backend microservices while maintaining 99.9% availability during 10x traffic spikes
- Implemented API gateway layer using Envoy proxy for 20+ backend microservices, configuring dynamic routing, circuit breaking, and retry policies that reduced cascade failures by 90% during traffic spikes

Johns Hopkins Applied Physics Laboratory | Software Engineer Intern May 2022 – Aug 2022

- Developed distributed command queue service for spacecraft uplink operations using Python and RabbitMQ, processing 500+ commands per simulation with exactly-once delivery guarantees and sub-second acknowledgment
- Constructed automated validation framework enforcing 40+ constraint rules across command sequences (timing, power, thermal) as reusable Python library, eliminating 95% of manual reviews and enabling 3 teams to validate independently

SpaceX | Software Engineer Intern May 2021 – Aug 2021

- Developed constellation network emulation platform for Starshield defense satellite network, simulating 1000+ satellite nodes concurrently to validate routing protocols and failure scenarios for DoD operations
- Built automated test harness validating network convergence under 50+ adversarial scenarios (jamming, node failures, network partitions), compressing hardware validation cycles from 2 weeks to 4 hours and accelerating protocol releases

LEADERSHIP

M³ CubeSat – Multi-Mode Mission | NASA CSLI / UNP NS-8 Nov 2019 – May 2023

- Led 8-person software team developing flight software and ground segment for 3U CubeSat deployed to orbit in 2024, delivering C&DH, attitude control, and communications systems on \$60K NASA budget over 2-year development cycle
- Architected ground station infrastructure processing UHF telemetry downlinks and command uplinks using Python and PostgreSQL, implementing end-to-end command verification and automated fault detection for on-orbit operations