Roberto Barreda

Senior Software Engineer

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PROFESSIONAL SUMMARY

Senior Software Engineer with 15+ years building cloud-native distributed systems and leading technical teams. Proven expertise in Golang, Python, and Kubernetes orchestration across AWS/GCP platforms. Specialized in zero-trust security architectures, observability platforms, and edge AI deployment. Led teams of 5-8 engineers delivering microservices serving millions of users with 99.95%+ uptime. Strong track record in system reliability, performance optimization, and cross-functional collaboration.

PROFESSIONAL EXPERIENCE

Senior Software Engineer - Technical Lead
Midokura (Jan 2024 - Present)

MIDOKURA is a Sony Group company that delivers innovative solutions to power the Edge AI revolution in IoT.

Lead a team of 6 engineers building the AI Integrations platform for AITRIOS, enabling seamless deployment of third-party AI models and WASM applications to edge devices at scale.

- Architected integration pipeline handling 50+ AI model deployments, reducing onboarding time from weeks to days and increasing platform adoption by 40%
- Designed and implemented WASM runtime orchestration on Kubernetes, supporting 10K+ edge devices with 99.9% deployment success rate
- Established CI/CD pipelines with automated testing, improving deployment frequency by 3x while reducing production incidents by 60%
- Led technical design reviews and mentored 4 junior engineers on cloud-native architecture patterns and edge computing best practices

Technologies: Java, Python, Kubernetes (GKE), PostgreSQL, Docker, GitOps, Edge AI, WASM

Staff Software Engineer
Netskope (Oct 2021 - Jan 2024)

Netskope's Remote Browser Isolation (RBI) isolates uncategorized and risky websites. Uses a zero trust approach to web browsing, using physical separation to ensure safe browsing.

Core contributor to RBI platform serving 5M+ users, delivering zero-trust security architecture and high-availability microservices infrastructure.

- Architected orchestration and configuration engine managing 1000+ browser instances, processing 50K+ requests/hour with sub-100ms latency
- Improved system reliability from 99.5% to 99.95% uptime by implementing circuit breakers, automated failover, and chaos engineering practices
- Built comprehensive observability platform using Prometheus, Grafana, and distributed tracing, reducing MTTR by 70% and enabling proactive incident prevention
- Established GitOps workflows and IaC with Terraform/Helm, achieving 50+ deployments/week with zero-downtime releases
- Mentored 5 engineers on microservices patterns, Kubernetes best practices, and security-first design principles

Technologies: Golang, Python, Kubernetes (EKS), AWS (EC2, EKS, S3, RDS), Terraform, Prometheus, Grafana, Zero Trust Architecture, Microservices

Cloud Engineer
Platform.sh (Jan 2021 - Oct 2021)

Platform.sh is a unified, secure, enterprise-grade platform for building, running and scaling fleets of websites and applications (PaaS) that enables organizations to build, iterate, and responsibly scale their applications with zero time managing infrastructure.

Contributed to core platform infrastructure supporting 10K+ applications, focusing on observability, performance optimization, and Python3 migration.

- Designed and implemented observability features using Prometheus and custom metrics exporters, improving platform visibility and reducing debug time by 50%
- Led Python2 to Python3 migration for 15+ critical services and libraries, ensuring compatibility while improving performance by 25%
- Standardized coding conventions and established linting/testing frameworks across 20+ repositories, reducing code review time by 40%
- Collaborated with Ops and Support teams to reduce P1 incident resolution time by 35% through improved monitoring and runbooks

Technologies: Python, Golang, PostgreSQL, LXC, Prometheus, Git, CI/CD

Lead Software Engineer
Clevernet (2015 - 2021)

Clevernet's patented WAN solution uses multiple optimal connections simultaneously to boost WAN performance. Our approach ensures a more effective use of your paid bandwidth and increases the security of your data in motion

First senior engineer hire, responsible for establishing engineering practices, platform architecture, and technical leadership for early-stage networking startup.

- Architected and built complete SD-WAN platform from ground up, supporting 500+ enterprise deployments across 20+ countries
- Designed and implemented IPsec/MQTT-based distributed control plane, achieving 99.9% uptime and sub-50ms failover between WAN connections
- Established DevOps practices including CI/CD pipelines, IaC with Ansible, and monitoring systems, reducing deployment time from days to hours
- Grew and mentored engineering team from 2 to 8 engineers, establishing code review processes, testing standards, and architecture documentation
- Led technology evaluation and selection for core platform components, optimizing for scalability, security, and operational efficiency

Technologies: Python, Ansible, MQTT, IPsec, PostgreSQL, Linux networking, SD-WAN

Software Engineer
Careesma (Dec 2012 - Jan 2015)

Careesma develops and operates job board websites with +6 million of unique visitors and +1 million of emails sent per month in multiple markets (India, Austria and Poland).

- Ported legacy PHP/C++ application to modern Python.
- Simplified onboarding for new jobseekers.
- Improve performance and reliability.

Technologies: Python, Solr, Mysql

Software Engineer
Qustodio (Jan 2011 - Nov 2012)

Qustodio is the free parental control and internet monitoring software that provides advanced detection and monitoring features.

As a member of the initial engineering team, I was involved with every aspect of the development, from the technical design of the features to the implementation, promotion to production, administration and server monitoring for the following services:

- Data gathering and processing (ETL).
- REST API that provides support for the parents' dashboard and desktop application.
- Alert and notification system.

Technologies: Python, PHP, Hadoop, Mysql

Software Engineer
Evolium (Nov 2008 - Nov 2012)

Involved in the design and development of the following projects for a well-known antivirus company.

- Client-side library that provides the communication with different cloud protection and security services.
- Phishing/Malware protection cloud service for web browsing. Uses heuristics to prevent and detect new and unknown threats.
- Web application for remote administration of antivirus installed on the stations of an organization.

Technologies: C++, C#, Mysql

Research Assistant
Universitat Politècnica de Catalunya (Jan 2007 - Nov 2008)

As a research assistant in the CBA (Broadband Communications Research Group, a multidisciplinary research group focused on areas related to broadband networks and broadband services)

I was involved in the development of several projects to measure the QoS of any network: NetMeter, OreNETa and EuQoS.

Technologies: C++, Qt, XML/XSLT, QoS

TECHNICAL SKILLS

Programming Languages: Golang (5+ years, microservices, concurrency), Python (10+ years, async, automation, data processing), Java (enterprise applications, Spring Boot)

Cloud & Infrastructure: Kubernetes (production orchestration, Helm, operators), AWS (EC2, EKS, Lambda, S3, RDS, VPC), GCP (GKE, Cloud Run, Pub/Sub), Terraform (infrastructure as code), Docker (containerization, multi-stage builds), Linux (system administration, networking, performance tuning)

Databases & Storage: PostgreSQL (schema design, query optimization, replication), MySQL (InnoDB, performance tuning), Redis (caching, pub/sub, data structures), SQL (complex queries, indexing strategies)

Observability & Monitoring: Prometheus (metrics, alerting, PromQL), Grafana (dashboards, visualization), Datadog (APM, distributed tracing), ELK Stack (logging, analysis), OpenTelemetry (distributed tracing)

Security & Networking: Zero Trust Architecture, IPsec, mTLS, VPN, RBAC, OAuth2/OIDC, SSO, Network policies, firewalls, Security scanning, vulnerability assessment

DevOps & CI/CD: GitOps (ArgoCD, Flux), GitHub Actions, GitLab CI, Ansible (configuration management), Jenkins, CircleCI

Architecture & Design: Microservices architecture, Event-driven systems, Domain-Driven Design (DDD), SOLID principles, API design (REST, gRPC), High availability & fault tolerance

EDUCATION

MSc in Computer Science
Universitat Politècnica de Catalunya • 2003 - 2008

Grade: Telematic Networks and Operating Systems

LANGUAGES

English (Professional) • Spanish (Native) • Catalan (Native) • Italian (Basic)