Guido Maria Serra

Engineering Portfolio — Extended Career History

Berlin, Germany | Open to US / UAE Remote

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This document supplements my 3-page ATS résumé with complete engagement history and technical depth.

Technical Skills

Programming Languages: C, PHP, Python (pytest), Ruby, SQL, Java, Jython, C++, XML, XSLT, EJB, Go, Erlang, Perl, Bash, TypeScript/Node.js, Actionscript, SVG

Microsoft: MSDos, Windows (3.1, XP, 10, 11, NT), Kerberos, LDAP, Active Directory

Networking: CDN Management, SSL/TLS, DNS Infrastructure Design, Kerberos, OpenID Connect (OIDC), F5 BigIP, Traefik, Kong, ServiceMesh, GSM, Over the Air, Akamai, Cloudflare, Tunnels, DNS, TCP/IP, PXE/TFTP, AWS (NLB, ALB, ELB), Apache, Juniper, ARP, VoIP (Asterisk, Hylafax)

Storage Technologies: AWS and Azure Storage, MinIO, Kubernetes Storage (CSI), Hadoop, CEPH (Rook, RBD, CephFS, S3/RGW), NFS Storage Design, Hadoop DFS, GlusterFS, AndrewFS, Microsoft DFS/Samba, NFS, iSCSI, ZFS, JuiceFS, EMC², 1.5PB+ deployments

Logging/Monitoring: ELK Stack, Graylog, Grafana, Prometheus (PromQL, Alertmanager, Pushgateway, Exporters), Loki, OpenTelemetry, Datadog, Dynatrace, AppDynamics, Nagios, OpenNMS, Ganglia, Cacti, SumoLogic, NewRelic, Collectd, SNMP-Exporter, Streaming Telemetry, distributed tracing, SLO/SLI

Security: WAF (Fastly/Signal Sciences, Cloudflare, Akamai), SSO, Bot Detection (Datadome), Azure AD (Entra ID), Kerberos, LDAP, OIDC, SAML, x509, OAuth2, Keycloak, Vault, Encryption at Rest, SIEM, GDPR/DSGVO Compliance, iptables/netfilter, OpenVPN, IPSec, Cisco PIX, CyberARK, Nessus, SE-Linux

Misc. Tools: Git, GitOps, Kubernetes, Rancher, GitLab CI/CD, GitHub, Docker, VMware/Xen Virtualized Systems, Helm, Kustomize, Flux, Mobile Load Testing, Continuous Integration, TLS/SSL, mTLS, OpenSSL, ArgoCD, ServiceNow, Jira, Confluence, TestRail, Cucumber, SoapUI, HP Quality Centre, Grinder, tSung, JMeter

AWS: AWS EKS, EC2, VPC, S3, CloudFormation, Lambda, Route53, IAM, CloudWatch

Azure: Azure Architecture, DevOps, AKS, Virtual Machines, VNet, Storage, Networking, Entra ID, Azure Policy, Cost Management

GCP: Google Cloud Platform, GKE, Cloud Identity, App Engine

Digital Ocean: Droplets, Kubernetes (DOKS), Spaces, App Platform

Private Cloud: Cloud Native Architecture Design, Hybrid Cloud, Cloudflare, Kubernetes, Helm, GitOps, NginX, Traefik, Vault, Sealed Secrets, CoreDNS, Cilium/eBPF, Portainer, Podman, OpenShift, OpenStack

Backup/DR: LTO Tape (LTO-5), DAT Libraries, Bacula, Veritas, Snapshots, Retention Policy Enforcement, Disaster Recovery Planning, heartbeat/DRBD, RH Cluster Suite

Databases: MongoDB, MySQL, Oracle, PostgreSQL, Redis, HBase, Hive, eXist, XPath, CouchBase, Memcached, ClickHouse, Kafka, Firebird/Interbase, SQLite, Lucene, Informix

Application Servers: Apache, Tomcat, JBoss, Glassfish, Django, Google App Engine, Cocoon, Squid

Mail Systems: Postfix, Cyrus-IMAP, Courier, Zimbra, Kolab, Amavis, ClamAV, Spamassassin

Embedded/Hardware: Arduino, ARM boards (BeagleBoard), FPGAs, VHDL, OpenEmbedded, LEAF, OpenWRT, HP Blades, IBM zSeries, SunStorage

Agile Methods: Agile, Scrum, OKRs, Kanban, ITIL Process Management

Virtualisation: ESX, KVM/Ganeti, VMware, Xen, Proxmox, RHEV

Infrastructure as Code (IaC): Terraform, CDKTF, Pulumi, Ansible, Puppet, Bcfg2, Chef, CFEngine, Salt, FAI

Management: Team Leading, Cost Control, FinOps, Contract Negotiations, Coaching, Conflict Mediation, Job Interviewing, Mentorship, Stakeholder Management

Administration: Linux Administration (Ubuntu, Debian, Fedora, RedHat, CentOS, Gentoo), Debian-Based Private Cloud Solution, Red Hat/CentOS Packaging, Continuous Delivery, Configuration Management (Puppet, bcfg2), Operational Monitoring

DNS & CDN: Infoblox, Active Directory, Bind9, CoreDNS, dnsmasq, Cloudflare, Akamai, Fastly
AI-Native Development: Cursor, Windsurf — accelerating design-build-test loops

Consulting Engagements (2018–2025)

2025

Security Consultant | DFND Security   2025
California, USA (Remote)

- EMEA cybersecurity solutions partner; Fastly (Signal Sciences) ngWAF platform expertise.
- SOC GOON role at DEFCON 2025; hands-on security operations center experience.

DevOps Consultant | Forward Earth   2025
Berlin (Remote)

- ISO 27001 certification project; Vanta auditor training and compliance assessments.
- Sustainability-focused startup; compliance automation and security posture improvements.

DevOps Consultant | 3T Software Labs   2025
Berlin (Remote)

- Authored Kotlin DSL for TeamCity; improved CI/CD pipeline maintainability and reusability.

Senior Software Development Engineer | Stealth FinTech Startup   Feb 2025 – Oct 2025
Dubai, UAE (Remote)

- Developed tokenized financial infrastructure in Python and Node.js/TypeScript.
- Built microservices architecture with Python FastAPI backends and TypeScript/Node.js engines.
- AI-native development (Cursor, Windsurf) to accelerate solo throughput across design-build-test loops.

2024

Head of DevOps / SRE | Octostar   Jun 2024 – Feb 2025
Bergamo, Italy (Hybrid)

- Led engineering team deploying multi-architecture GPU Kubernetes platform for LLM applications on embedded portable devices.
- Achieved dev/R&D environment stability with replicable full-stack deployability; prepared infrastructure for air-gapped environments with offline artifact handling.
- Mentored development team on Kubernetes tooling (k9s, stern, LENS) for application debugging.
- Architected ClickHouse + MinIO data platform; built real-time analytics and observability for ML operations.
- Streamlined delivery of Intelligence DATA ANALYTICS solution based on Apache Superset, ClickHouse, Kind-Kubernetes, GPU/CUDA Machine Learning on AWS and Hetzner premises.

DevOps Team Lead | Contensi Software GmbH   Jan 2024 – ongoing
Berlin (Remote)

- Mentored and provided guidance to two junior DevOps colleagues to facilitate professional development and enhance team capabilities.
- Led construction of reference MinIO Storage cluster utilising Rancher Kubernetes, ensuring robustness and scalability for storage infrastructure needs.
- Infrastructure as Code with CDKTF (TypeScript) for cloud resource provisioning.
- Long-term advisory and technical partnership relationship.

2023

Staff Site Reliability Engineer | Prima Assicurazioni   2023
Milan, Italy (Remote)

- Led cloud security operations and AWS governance for regulated FinTech/Insurance company; coached 12-person SRE team.
- Coordinated AWS account rearchitecture establishing security boundaries across London, Barcelona, Milan.
- Infrastructure as Code with Pulumi (TypeScript) for AWS resource management.
- Conducted GDPR/DSGVO compliance reviews of Data Warehouse processes; identified stakeholders and ensured data privacy.
- Guided organization through internal restructuring towards Domain-Driven Design (DDD) setup.

2022–2023

Cloud Architect | ClovrLabs   2022 – 2023
Barcelona (Remote)

- Built and managed 5-person security operations team; led hiring process and established security blueprints.
- Designed scalable Kubernetes platform with GitOps workflows: ArgoCD/Traefik/Datadog/SealedSecrets.
- Go backend development for blockchain analytics services.
- Architected federated IAM with SAML/Google/Cloudflare Access; cloud identity management solutions.
- Built BTC data analytics pipeline; cost-effective on-premise infrastructure with Kubernetes/Spark/JupyterLabs.

Architecture Consultant | Bella & Bona   2022 – 2023
Italy (Remote)

- Architecture audit for investors; due diligence and technical assessment.
- Evaluated cloud infrastructure and scalability for food-tech startup.

Site Reliability & Security Engineer | SkyCharge   Jul 2023 – Nov 2023
Berlin (Remote)

- Developed Debian package extension for ANSI-C codebase, optimized for armhf (BeagleBoard) architecture.
- Spearheaded introduction of unit tests alongside GDB for comprehensive code validation and quality assurance.
- Embedded systems expertise; IoT charging infrastructure.

2021–2022

Site Reliability and Security Engineer | Max Planck Institute   2021 – 2022
Berlin (Hybrid)

- Built hybrid cloud platform on GWDG-provided SUSE Rancher Kubernetes running on OpenStack; deployed 1.5PB storage.
- Implemented federated IAM architecture; integrated LDAP/SAML authentication flows with OAuth2.
- Infrastructure as Code with CDKTF for OpenStack and Kubernetes resource management.
- Introduced metadata-aware storage prototypes (MinIO/JuiceFS); drove IAM control policies.
- HPC and research computing environment; scientific workload optimization.

2020–2021

Security / DevOps Engineer | HelloFresh   Apr 2020 – Mar 2021
Berlin (Hybrid)

- Took over departing engineer's workload in 2 weeks; built security team from 1 to 5 FTEs.
- Rollout of library vulnerability scanning tool; Graylog and Elasticsearch SIEM for compliance logging.
- Incident response procedures and on-call rotations; rapid scaling during COVID-19 demand surge.
- Food safety regulated environment; worked with customer IT/security teams on compliance requirements.

2019

DevOps Team Lead | UMI / Volkswagen WeShare   2019
Berlin

- Brought in 1 week before go-live to ensure production readiness; managed 5-person SRE team through launch.
- Orchestrated microservices on GCP/Azure; established deployment readiness for go-live windows.
- High-pressure launch environment for Volkswagen's car-sharing platform.

2018–2022 (Long-term)

DevOps Engineer | Mobivia (ATU Auto-Teile-Unger / Norauto)   Oct 2018 – Dec 2022
Berlin (Remote)

- Shaped 4-year technical vision; migrated Link11→Cloudflare, NGINX→Traefik (Go-based ingress).
- Kong ServiceMesh implementation for Norauto brand; API gateway and service routing.
- Introduced modern GitOps with ArgoCD; implemented unified SSO with Keycloak across all internal tooling.
- ServiceNow integration for incident management and change requests; ITIL process workflows.
- Maintained operations on complex on-prem Kubernetes/VMware setup interfacing with legacy infrastructure.
- Stabilized ELK-based SIEM; introduced retention policies; reworked DNS/ingress and WAF security posture.
- SNMP-based network device monitoring; Prometheus exporters for infrastructure metrics collection.

2017–2019

Fractional Chief Technology Officer | SiWeGO   Nov 2017 – May 2019
Trento, Italy (Remote)

- B2B suppliers platform; algorithmic graph indexing with patent application.
- Cost-optimized architecture design; startup technical leadership.

Full-Time Employment (2008–2018)

Senior Performance Engineer | OLX Group   2016 – 2018
Berlin

- Web Performance domain expert for APM; led load and performance testing across 4 international locations.
- Designed Grafana dashboards for performance metrics visualization; data pipelines for metrics collection.
- Managed $2M NewRelic contract; co-managed $4M Akamai and $24M AWS bills; saved $300K/year through FinOps practices.
- Vendor evaluation of APM solutions (Dynatrace, AppDynamics) as part of observability strategy.
- Cost tracking, budget alerts, and stakeholder reporting; capacity planning and cloud economics optimization.
- Contributions to Goad AWS Lambda load testing tool (Go).
- CDN/WAF domain expertise across Akamai and Cloudflare platforms (Argentina, Portugal, Germany, India).

Site Reliability Engineer | Sony PlayStation (Gaikai)   Oct 2013 – Summer 2016
Berlin

- Operated PlayStation Now video game streaming platform: 55,000 hosts across 12 datacenters.
- Designed NTP infrastructure; operated X.509 certificate-based SSH infrastructure with PKI management.
- Designed documentation solution for US/EU team communication; ensured data retention and knowledge transfer.
- Optimized NFS storage and OS tuning for new generation streaming racks; load and performance testing.
- Trained in NYC Q1 2016: Red Hat Ceph Storage Architecture and Administration (CEPH125).
- Architected Ceph storage (RBD, CephFS, S3/RGW); encryption at rest for data security compliance.
- Developed custom DSL for metrics querying (textX/Graphite); PromQL and time-series database expertise.
- Designed and scaled Prometheus-based monitoring for 55,000+ hosts; SNMP-Exporter for network device monitoring.

- Alertmanager configuration and alert rules; metrics collection from switches, routers, and infrastructure.
- Mentored 5+ engineers on distributed systems and observability practices.
- Packaged and maintained Ganeti KVM cluster for Gentoo Linux (Google-authored project).

Chief Troubleshooter / Senior Data Architect | Rocket Internet   2013
Berlin

- Direct report to Global CTO; supervised technical issues across 300+ ventures in South East Asia.
- Built Hadoop/MapR M3 cluster (5 nodes) with HIVE and SquirrelSQL integration.
- Excel-based reporting and cost tracking across ventures; budget analysis and capacity planning.
- Solved TCP window scaling on high latency networks by implementing custom file transfer (stunnel+rsyncd).
- Orchestrated bug fixing across fork-based code handling; capacity testing and deployment automation.

Backend QA Manager | txtr GmbH (3M-sponsored)   Jul 2011 – Aug 2012
Berlin

- Spearheaded development of eBook reading technology, specializing in Adobe DRM and ONIX metadata ingestion.
- Conducted REST API user acceptance and load & performance testing.
- Led emergency and root cause analysis efforts during critical incidents.
- Implemented operational monitoring strategies to ensure system stability and performance.
- PowerBI dashboards for QA metrics and reporting; stakeholder communication.
- Developed Ruby-based test automation solution utilizing Cucumber and Selenium frameworks; pytest for Python components.
- Engineered XML, XPATH, and XQUERY search engine for efficient data retrieval.
- Spearheaded proof of concept initiative involving Hadoop technology.
- Executed CDN and RUM testing, leveraging JMX-based instrumented metrics for performance assessment.
- Graylog implementation for centralized log management and analysis.
- Facilitated code reviews; oversaw reporting and coordination for team of 3 UAT engineers.

Senior System Engineer | ProfitBricks (now IONOS)   Apr 2011 – Jun 2011
Berlin

- Implemented Debian-based KVM private cloud solution.
- Served as Deputy Operations Team Lead, overseeing team of 6 engineers.
- Conducted software packaging activities; proficient in Python scripting.
- Configuration management with bcfg2 and Puppet; managed monitoring and backup operations.

Senior System Engineer | Nokia Maps (Gate5 GmbH → HERE Technologies)   2010 – 2011
Berlin

- Supported OVI Maps service delivery; CI improvements and capacity planning across multiple datacenters.
- Facilitated Yahoo/OVI Maps integration testing; improved build pipelines and cross-team collaboration.

Quality Assurance Architect | Vodafone Group   2008 – 2010
Düsseldorf

- Authored internal load and performance testing toolkit (HTTP-QAT); stress-tested Vodafone 360 backends (€250M project).
- Established QA processes and test documentation standards; test management and reporting.
- ITIL-based incident and problem management processes; change management and service delivery.
- Implemented remote monitoring and IOT-based checks for GSM/3G services on several networks/SIMs.
- Led QA coordination within team of 10 engineers; large-scale telecom program delivery.

Independent Engineering (1996–2008) — Italy

Solution Architect and Systems Engineer | Multiple Clients   1996 – 2008
Italy

Enterprise Infrastructure:

- Designed "Pandora" SMB solution: OpenLDAP/PAM/Samba, Postfix/Cyrus, Asterisk/Hylafax on heartbeat/DRBD with OpenWRT/OpenVPN.
- Built "Stendhal" digital library system (Biblioteca Sormani, Milan) for Telecom Italia's DigitaMi project; MySQL fulltext search with DjVU imaging. Still online: digitami.it/stendhal
- LDAP directory services, mail systems, VoIP, HA clusters for enterprise clients.

Security & Bodyrentals:

- Security analyst at H3G Italy (Hutchison Whampoa); bodyrentals at BPU Banca, Sorgenia.

Open Source & Community:

- IEEE member; EUCIP certification board (opensource expert); led ECDL open-source certification.
- Conferences: DEFCON, FOSDEM, HACKIT, BerlinBuzzWords, DevOpsDays, DebConf.
- IT volunteer: Emergency NGO, PeaceReporter; IT Manager for ISF Milano.

Partnerships:

- Business partner of Alessandro Rubini ("Linux Device Drivers" author) and KOAN Software (KaeilOS) for embedded Linux R&D.
- Database developer at UBI Banca (PL/SQL); extensive PHP development.

Education

Bachelor of Engineering in Computer Science and Software Engineering
Politecnico di Milano | 2000–2008, 2014, 2023–ongoing

- Co-founder of Politecnico Open *nix Labs → poul.org; student representative (twice elected).

Professional Training & Certifications:

- Red Hat Ceph Storage Architecture and Administration (CEPH125), NYC 2016
- ISO 27001 / Vanta auditor training, 2025
- Project Management Professional (PMP) training course (CEFRIEL, Milan)

Notable Achievements

- **Security:** iCTF 2005 World Champion; DEFCON CTF finalist; SOC GOON at DEFCON 2025
- **Scale:** Operated 55,000+ hosts across 12 global datacenters (PlayStation Now)
- **Cost Impact:** $300K/year savings through infrastructure optimization (OLX)
- **Budget Management:** Co-managed $30M+ infrastructure spend (AWS, Akamai, NewRelic)
- **Team Building:** Built security team from 1 to 5 FTEs (HelloFresh); led 12-person SRE team (Prima)
- **Storage:** Deployed 1.5PB hybrid storage platform (Max Planck Institute)
- **Open Source:** FSFE Fellow; Gentoo maintainer; patches for GOsa2, Seagull, GNU Arch, Goad
- **Innovation:** Patent application for algorithmic graph indexing (SiWeGO)

Languages

Italian (Native), English (Fluent), German (Working Proficiency)

Work Authorization

EU Citizen; eligible for US and UAE work visa sponsorship