

Stephano Zanzin Ferreira

34 years old, based in Berlin, Germany.

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Senior DevOps Engineer, Site Reliability Engineer and Cloud Infrastructure Specialist

Designing & Implementing High-Performance Systems, Infrastructure, and DevOps Solutions

Seasoned engineer with over 17 years of experience in diverse programming languages, methodologies, and platforms, specializing in high-performance systems, microservices, distributed systems, and cutting-edge solutions to tackle large-scale challenges.

- **DevOps Advocate:** Embracing the DevOps approach from its inception, passionately promoting its integration throughout the system development life cycle, encompassing planning, creation, testing, and deployment.
- **Technical Leadership Expertise:** Possessing a deep understanding of technology and extensive experience in implementing hundreds of solutions, I offer guidance and expertise at every stage of development.
- **Multidisciplinary Problem Solver:** With a background in backend development and comprehensive systems administration knowledge, I apply learnings from different areas to solve complex problems.
- **Adaptable Experience:** Adept at working with companies of varying sizes and practices, I easily adjust to understand the unique needs of each business and environment.

Experience

As a Freelancer

Below some of the companies I've provided services as a freelancer.

FREELANCE SENIOR PLATFORM ENGINEER, GERMAN EDGE CLOUD - 2021-2023

German Edge Cloud is a specialist in edge and cloud solutions. The company supports process optimization using data analytics, in the manufacturing industry for example, and guarantees its customers full data sovereignty for connections to the public or private cloud.

Some of my contributions:

- Developed and managed a GitOps Kubernetes platform, using Argo CD, VMWare Tanzu and VMWare Carvel (imgpkg, ytt, vendir, kbd). Serving several internal and external customers.
- Developed several Kubernetes Operators in Go. Operators were used for infrastructure and in-cluster provisioning.
- Developed, tested and maintained several Helm charts for dozens of different technologies, including: Kafka, cert-manager, ArgoCD, Postgres-Operator, Prometheus, Redis-Operator, MariaDB-Operator, Thanos, and many more.
- Developed and maintained observability systems using Prometheus, ELK, Grafana, Loki, and the OpenTelemetry framework.
- Designed and built observability dashboards for Grafana.
- Tested and identified bugs in infrastructure components, utilising networking tools and self-built tools in Python, Go and Java.
- Developed and managed ArgoCD pipelines.
- Built, maintained and improved dozens of GitLab CI pipelines.
- Refactored core Kubernetes architecture to enable a modern platform approach to deploying apps and components.
- Developed an Internal Developer Platform.
- Designed the architecture and developed an app store to be used by cloud customers.

- Built agnostic tools, infrastructure and architecture for multi-cloud environments, including AWS, Azure and GCP. Using Terraform and self-built tools.
- Employed a Linux mindset, Shell scripting, Python, and a POSIX approach whenever necessary.

FREELANCE SENIOR DEVOPS / SITE RELIABILITY ENGINEER, VOLKSWAGEN AG - 2018-2022

In collaboration with Storm Reply, I provided DevOps services to the Container Orchestration team for one of Volkswagen's largest platforms. This team is responsible for designing and implementing container-based cloud infrastructure and managing multiple Kubernetes clusters.

Some of my contributions:

- Designed, developed and implemented a large Kubernetes infrastructure, encompassing dozens of Kubernetes clusters running across different regions and environments, in AWS and Azure. The total amount of nodes fluctuated between 500-1000 Kubernetes nodes (auto-scaled).
- Operated and provided SRE services to the whole infrastructure. Including on-duty calls.
- Supported various development teams. 200+ car technology applications were deployed in our infrastructure, communicating with more than 3 million vehicles.
- Led and took ownership of every single component of the architecture, debugging, testing, mitigating issues, and preventing potential problems.
- Designed and developed AWS and Azure cloud infrastructure, using Terraform, AWS CDK, AWS Codebuild, and more.
- Solved critical etcd-cluster issues.
- Fixed bugs in WeaveNet CNI, contributed with Go code and created GitHub PRs for the Open Source project.
- Iterated and evolved the infrastructure. Migrated core infrastructure components, and solved bottlenecks. Including migrating WeaveNet to Cilium.
- Built, maintained and deployed dozens of Helm charts, for all kinds of core Kubernetes components.
- Ensured compliance and high security standards using various tools, including kube-bench, KubeSec, Aqua Security and SonarQube.
- Designed and implemented an observability stack, using Prometheus, Grafana, ELK and more.

- Developed and implemented CI/CD pipelines, running in Concourse CI.
- Created GitOps workflows using Flux.
- Designed, developed and tested system tools written in Go.
- Employed Linux, shell and networking skills.

FREELANCE SENIOR SOFTWARE ENGINEER, MOHOUND - 2013-2014

Mohound is a platform specializing in marketing automation, streamlining and automating the process of purchasing ads across various networks in the United States and Mexico.

Some of my contributions:

- Designed and developed microservices architecture.
- Developed backend applications in Ruby and Go.
- Designed and deployed infrastructure in AWS using Capistrano, Chef and Terraform.
- Extensive app testing using TDD and BDD.
- Designed, built and implemented CI/CD pipelines using Jenkins.
- Operated and maintained core Linux infrastructure in AWS.
- Operated and maintained message queue systems, databases and additional core infrastructure.

FREELANCE SOFTWARE ENGINEER, AMGEN - 2013

Amgen is a leading biopharmaceutical company based in the United States, committed to discovering, developing, manufacturing, and delivering innovative human therapeutics.

Some of my contributions:

- Developed a system to streamline and organise the process of business acquisitions, enhancing efficiency and minimising potential risks.
- Designed and developed backend applications in Ruby.
- Utilised TDD and BDD methods for delivering high-quality applications.
- Designed, built and implemented CI/CD pipelines in Jenkins.
- Wrote infrastructure components using Chef.
- Employed Linux and shell skills whenever necessary.

As a Full-time Employee

Below some of the companies I've worked for as a full-time employee.

SENIOR DEVOPS / SITE RELIABILITY ENGINEER, SIGNAVIO GMBH; BERLIN, GERMANY – 2016-2018

Signavio is a global leader in providing SaaS BPMN solutions and Decision Management tools to a diverse clientele. The company was acquired by SAP and now is part of SAP's roster of business intelligence products.

Some of my contributions:

- Introduced, developed and operated all Kubernetes clusters of the company, running on top of AWS and Azure across several regions of the globe, including North America, Europe and Asia. 500+ Kubernetes nodes, deployed using Kops, Terraform and self-managed solutions.
- Maintained and performed SRE work on all aspects of the infrastructure, including cloud infrastructure and on-premise datacenter, Databases, Networking, message systems and so on.
- Defined SLIs and SLOs.
- Performed on-duty calls.
- Designed and implemented observability and monitoring systems. Using Prometheus, ELK, Grafana, and more.
- Developed closed-source and Open Source tools in Python and Go.
- Designed, developed and implemented a ChatOps solution that enabled developers to execute quick deploys and fast iterations in the K8s infrastructure. The tool was later Open Sourced and used by other companies.
- Built and maintained Jenkins and GitLab CI pipelines.
- Designed, implemented and operated GitLab and GitLab CI infrastructure.
- Wrote and deployed several infrastructure components using Puppet, Terraform and Ansible. For AWS, Azure and on-premise.
- Developed and operated GitOps workflows using Flux.
- Built systems applications in Go and Java, creating APIs to collect server and app data.
- Ensured compliance and high-security standards using SonarQube, Kube-Bench, Vault and other DevSecOps tools.
- Supported implementation and wide-spread adoption of Docker in the company.

- Employed Linux and networking expertise whenever necessary.
- Took a lot of ownership of the infrastructure, as the team was quite small. Thus, automation and efficiency had to be employed at every aspects of the work.

SYSTEMS SPECIALIST, LOCAWEB; SAO PAULO, BRAZIL – 2013-2015

Locaweb is the largest hosting provider in Latin America, offering a wide range of services, including web hosting, cloud computing, and data center solutions.

Some of my contributions:

- Developed a storage management system from scratch using Ruby, Perl and C, built on top of storage technology from F5, EMC and Avere. The storage management solution was utilised for system analysis and provisioning of storage services across a network of 1000+ storage machines running OpenSolaris (with ZFS) and more than 9 petabytes of data.
- Participated in the re-design and implementation of a new storage architecture that reduced costs in more than 35%.
- Developed an in-house metrics monitoring system, using Python, Haskell and C. The system was used to monitor a large datacenter, comprised of 20.000+ machines, running Linux, Windows and proprietary systems. The solution could be described as somewhat similar to Prometheus, before Prometheus was made public.
- Designed, built and implemented OpenStack infrastructure at scale.
- Built and implemented Apache Mesos clusters.
- Developed in-house container-based solutions for Web Hosting, using Docker and Go.
- Built and deployed infrastructure components using Chef and Puppet.
- Operated and maintained legacy systems.
- Developed an in-house solution to monitor and limit customer resources in the shared hosting platform, using cgroups.
- Provided general assistance in areas such as systems administration, SRE and infrastructure development.
- Employed Linux, infrastructure, and networking knowledge whenever necessary.

SENIOR CONSULTANT, CODEMINER 42; SAO PAULO, BRAZIL – 2011-2013

Codeminer 42 is a prominent tech consulting firm in Brazil, working closely with national and international companies and frequently engaged in rapidly bootstrapping new ideas.

Some of my contributions:

- Designed, built and implemented the architecture for Olook. A Brazilian e-commerce platform.
- Actively participated in the development of the platform: From 0 to 300.000 customers.
- Performed SRE and DevOps duties for Olook. Automating infrastructure, monitoring and solving problems.
- Contributed with backend code written in Ruby.
- Developed and deployed infrastructure components in Heroku and AWS, using Chef and Capistrano.
- Operated several Linux servers, SQL and NoSQL Databases, Redis clusters, and other core components.
- Fostered a DevOps and Agile mindset within the company.
- Contributed to various Open Source communities and events. As the company took the FOSS ecosystem very seriously.

CONSULTANT, ELC TECHNOLOGIES; PORTLAND, OR – 2010-2011

ELC Technologies is a US-based consulting firm specializing in software development and technology solutions.

Some of my contributions:

- Developed a portal for ESPN using Ruby On Rails.
- Designed and developed an application to manage water pumps for Arrayent, a leading IoT platform provider. Using Ruby and C.
- Managed and operated infrastructure. Postgres databases, Redis and MongoDB instances.

SITE RELIABILITY ENGINEER, BOO-BOX; SAO PAULO, BRAZIL – 2009-2010

Boo-Box is one of the largest ad networks in Brazil, backed by Monashees and Intel Capital. The company has made a significant impact in the Latin American online advertising market, reaching an audience of over 60 million people.

Some of my contributions:

- Designed, built and implemented large-scale Linux infrastructure running in several providers and on-premise.
- Performed SRE duties, including on-duty, defining SLIs and SLOs, monitoring and improving infrastructure components.
- Developed backend apps in Ruby.
- Implemented and managed databases, including PostgreSQL and CouchDB.
- Designed and implemented message systems using Redis.
- Employed Linux, shell and networking skills in various critical circumstances.
- Developed infrastructure components using shell scripting, Capistrano and Chef.
- Automated and introduced high-availability concepts to handle high-load.

SITE RELIABILITY ENGINEER, METRÔ DE SÃO PAULO; SAO PAULO, BRAZIL – 2007-2009

Metrô-SP is the government-operated company responsible for managing the rapid transit system in the city of Sao Paulo, transporting more than 5 million passengers daily.

Some of my contributions:

- Managed, operated and deployed hundreds of Linux and FreeBSD servers running on-premise.
- Designed, managed and deployed status information systems.
- Implemented monitoring systems.
- Operated, maintained and bug fixed critical infrastructure, including communication systems and proxies.
- Managed and deployed Java applications on JBoss.
- Managed and deployed workloads running in IBM mainframes (z/OS and z/VM).
- Operated MySQL, Postgres and Oracle databases.

ENGINEERING INTERN, ABERIUM SYSTEMS; SAO PAULO, BRAZIL – 2006-2007

Aberium Systems, a startup owned by Blue Pex and MAPA, focused on developing innovative solutions for embedded systems and appliances such as routers, proxies, and firewalls.

As an Intern at Aberium Systems, my primary responsibilities included participating in the development, maintenance, and support of their diverse solutions. This encompassed coding, bug-fixing, performing on-site installations, providing customer support, and more. Some of the key technologies employed: C, Python, Perl, Soekris, FreeBSD, OpenBSD, Linux, MySQL, Postgres.

Education

- Technical School in Informatics. SESI / SENAI, Pouso Alegre - 2006-2007
- Bachelor in Computer Science. UNIFESP, São Paulo - 2007-2009
 - Relevant Coursework:** Algorithms and Data Structures, Software Engineering, Databases, Operating Systems.
 - Note:** Completed 70% of coursework towards degree. Left the program to pursue professional opportunities in tech.

Skills

PROGRAMMING LANGUAGES

Python, Go, Ruby and C/C++.

OPERATING SYSTEMS

Linux, FreeBSD, OpenBSD, Solaris and macOS.

Languages

Fluency in English, Spanish and Portuguese. Intermediate in German.