

# Daniel Martins

Software Engineer ★ Open Source Enthusiast ★ Guitarist

Rio de Janeiro, Brazil

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## OBJECTIVE AND QUALIFICATION SUMMARY

- Software engineer focused on backend systems, cluster management, operating systems, infrastructure, and related areas
- Solid experience in writing, deploying, and maintaining cloud-native applications
- Passionate about real-world high scalability problem solving
- Experience acting as a lead engineer in small teams

## TECHNICAL SKILLS

- **Languages:** Go, JavaScript, Bash, Ruby, Python, Lua, Java, Clojure, Matlab, C
- **Web Frameworks:** Rails, Sinatra, Express.js, Django
- **Web Servers:** NGINX, Unicorn, Puma
- **Infrastructure as Code:** Terraform, Puppet, Capistrano, Fabric, Ansible
- **Monitoring:** Grafana, Graphite, InfluxDB, Prometheus/AlertManager
- **Container Technology:** Kubernetes, Tsuru, Docker, Rkt, Container Linux
- **IaaS/PaaS:** AWS, DigitalOcean, Heroku
- **Databases:** MongoDB, Redis, Postgres, Cassandra, MySQL

## FEATURED OPEN SOURCE CONTRIBUTIONS

- 🎧 **kubernetes/kubernetes:** Production-Grade Container Scheduling and Management
  - PR #48707: Allow nodes to create evictions for its own pods in NodeRestriction admission controller
- 🎧 **kubernetes-incubator/kube-aws:** Kubernetes on AWS with Container Linux
  - I'm part of the core team and active contributor, with several merged contributions
- 🎧 **kubernetes/ingress-nginx:** Ingress controller for NGINX
  - PR #1238: Add support for `client_body_timeout` and `client_header_timeout`
- 🎧 **kubernetes/charts:** Curated applications for Kubernetes
  - PRs #533 and #535 for Prometheus

## FEATURED OPEN SOURCE PROJECTS

- 🎧 **danielfm/prometheus-for-developers:** Practical Prometheus workshop for developers
  - Gave this workshop for all engineering team at Descomplica for showing the basics about Prometheus
  - Provides cookbook-style queries for common scenarios and give some tips for avoiding common pitfalls
- 🎧 **danielfm/kube-ecr-cleanup-controller:** ECR image cleanup controller for Kubernetes
  - Controller written in Go that deletes old Docker images from whitelisted ECR repositories
  - It takes care not to delete images that are currently running in the cluster, and images tagged with `latest`
- 🎧 **danielfm/pybreaker:** Circuit Breaker implementation for Python
  - Typically used in API clients in order to prevent cascading failures across multiple systems
  - Used by Globo.com, AppNeta, Amplify, SeatGeek, and others
  - Used to safeguard one of Globo.com's the most accessed internal APIs, with tens of thousands of req/minute
- 🎧 **xmlrunner/unittest-xml-reporting:** Test results exporter for Python
  - XML file format supported by all major CI servers and build systems
  - Used by Khan Academy, Globo.com, and others



## **danielfm/bencode:** BitTorrent encoding implementation in Clojure

- Parses bencoded strings directly to Clojure data structures and vice-versa
- Features a threadpool-based parallel piece hashing implementation that can handle tens of GiB of data

## PROFESSIONAL EXPERIENCE

- Jul. 2019 - **Site Reliability Engineer**, *Jusbrasil*, Remote from Rio de Janeiro, Brazil.  
Present ◦ **Technologies got to work on:** Bash, Kubernetes, Docker, Google Cloud, NGINX, and many others
- Jun. 2015 - **Production Engineer / Site Reliability Engineer**, *Descomplica*, Rio de Janeiro, Brazil.  
Jul 2019 ◦ Started to implement more formal SRE practices for monitoring Service Level Objectives (SLOs) and Error Budgets  
◦ Acted as advisor for the product teams, by providing insights and architecture suggestions for making new services reliable and more well integrated with the current ecosystem  
◦ Helped reduce costs by rearranging the network topology to reduce data transfer charges, as well as right-sizing the EC2 instances to better match our workload requirements, and using spot/reserved instances  
◦ Changed the ingress infrastructure to leverage the AWS WAF, as well as NGINX, to mitigate common types of application-layer attacks, such as brute force and DDoS  
◦ Improved security by implementing tools for enforcing basic security policies, such as disabling old access keys and removing access from users without MFA enabled  
◦ Restructured user policy management by applying the principle of least privilege, role-based access control, and segregated networks for sensitive systems, such as data lakes  
◦ Streamlined infrastructure management by implementing an automated pipeline for reviewing, auditing, and applying infrastructure changes  
◦ Deployed a centralized logging solution for consuming the logs for all production services in a single place  
◦ Created comprehensive documentation on how to mitigate and resolve all currently known failure modes  
◦ Helped the product teams instrument all production services in order to give visibility into how the services were operating, and to spot optimization opportunities  
◦ Set up monitoring and alerting at all layers, from the services themselves to most basic infrastructure resources, such as AWS limits and RDS database usage metrics  
◦ Implemented a generic Continuous Delivery pipeline that enabled product teams to preview and safely push several changes to production every day  
◦ Migrated all critical services from AWS Beanstalk to Kubernetes, significantly cutting infrastructure costs due to better resource utilization  
◦ **Technologies got to work on:** Go, JavaScript, Bash, Kubernetes, Docker, AWS, NGINX, and many others
- Dec. 2010 - **Software Engineer**, *Globo.com*, Rio de Janeiro, Brazil.  
May 2015 ◦ Worked on the Live Video Streaming Platform, a distributed architecture for live video ingest and delivery capable of broadcasting dozens of live streams to hundreds of thousands of users  
◦ Delivered Globosat Play, a software platform that provides cable TV subscribers access to the video content licensed in Brazil by Globosat  
◦ Delivered Combate Play, a website where Combate channel subscribers enjoy instant and unlimited access to a constantly updated collection of fights  
◦ Worked on 2012's Big Brother Brasil broadcasting page, which would then become a platform for publishing live video transmission pages (used in several occasions ever since, like the UFC fight nights, Sochi Olympics, etc)  
◦ Worked on globo.tv, a video-on-demand portal that organizes both free-to-watch and paid content produced by Globo  
◦ Worked on the current version of the Video Catalog, which consists of a CMS and a pluggable application for offering video-on-demand content  
◦ Delivered the first version of VideoThumbs, an API that serves dynamically resized and cropped video thumbnails  
◦ **Technologies got to work on:** Ruby, Python, Lua, Redis, MongoDB, Cassandra, NGINX, and many others
- Jan. 2008 - **Consultant**, *Freelancer*, Ourinhos, Brazil.  
Dec. 2010 ◦ Worked as an instructor for a SCJP 1.5 course to a class of a dozen students for local development shop  
◦ Delivered custom CRM system for a local real estate company that organized all brokers' activities, prospects, and kept track of sales goals  
◦ Delivered a basic multilingual e-commerce website for a local real estate company  
◦ Wrote a web-based user permission management tool for a client's legacy database, which were already being used by several internal applications  
◦ **Technologies got to work on:** Java, Python, Oracle, MySQL

Jun. 2004 - **Programmer**, *Plasútil, Lecom*, Bauru, Brazil.

- Sep. 2006
- Eliminated severe performance bottlenecks on one of their most critical product
  - Wrote a few small Java applications for data exchange and data synchronization
  - Developed a new Warehouse Management System to replace the old Dataflex-based legacy system
  - Wrote the first version of their Intranet application during my internship
  - **Technologies got to work on:** Java, ASP, Informix, MySQL, PHP, .Net (C#, WinForms), Oracle

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## EDUCATION

2003 - 2006 **Bachelor, Computer Information Systems**, *Faculdade Gennari & Peartree (FGP)*.

2000 - 2002 **Technical School, Computer Programming**, *Liceu Noroeste*.

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## COURSES AND CERTIFICATIONS

Mar. 2017 **LFS258: Kubernetes Fundamentals**, *Linux Foundation*.

Dec. 2013 **CS1156X: Learning From Data**, *CaltechX*.

Dec. 2011 **Intro to Machine Learning**, *Coursera*.

Feb. 2007 **SCWCP: Sun Certified Web Component Developer 1.4**, *Prometric*.

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## FEATURED ARTICLES

Sep. 2017 **Pain(less) NGINX ingress**, *Personal Website*.

Post reached #6 in HackerNews

Sep. 2016 **Five Months of Kubernetes**, *Personal Website*.

Post reached #4 in HackerNews

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## CONFERENCES

Nov. 2016 **KubeCon**, Seattle/WA, USA.

Sep. 2014 **Strange Loop**, St Louis/MO, USA.

Feb. 2013 **Strata**, Santa Clara/CA, USA.

Jun. 2012 **Velocity**, Santa Clara/CA, USA.