Curriculum vitae

PERSONAL INFORMATION

Riccardo Campisano

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Gender Male | Date of birth 20/09/1983 | Nationality Italian

JOB APPLIED FOR

Systems Architect and Team Leader

Summary   Software Developer experienced in Systems Architecture, Design Patterns, and Team Leadership. He is skilled in C++/Java/C#/Python/R languages, Distributed/Parallel Computing, Cloud computing, Data Mining, and GNU/Linux systems. He has been working as a professional developer since 2008, acquiring experience with project coordination, team building, and leadership. He has Technological Higher Education Degree in Internet Systems from CEFET/RJ, and Master's degree in Production Engineering and Systems from CEFET/RJ (Centro Federal de Educação Tecnológica Celso Suckow da Fonseca – Rio de Janeiro).

Areas of Interest   Systems Architecture and Data Science, especially Data Mining, Machine Learning, and High Performance Computing.

WORK EXPERIENCE

November 2020 – Present

Software Development Specialist

Organization name   Globo Comunicação e Participações S.A., Rio de Janeiro – Brazil

Description   Software Development Specialist at Globo Comunicação e Participações S.A., acting in the Routing and Streaming services of the Live and On–Demand video streaming platform (supporting the Globo Group products including Globoplay, Canais Globo and the G1/GE/GShow news portals) that offers videos which are accessed by millions of users every day, using low–latency and high–throughput architecture composed of Ruby on Rails applications supported by Nginx for reverse proxy caching and Redis for application caching, deployed in a proprietary Content Delivery Network composed of high–performance bare–metal servers as well as cloud–based virtual servers.

April 2018 – October 2020

Software Development Specialist and Team Leader

Organization name   M4U / M4 Produtos e Serviços S.A., Rio de Janeiro – Brazil

Description   Software Development Specialist and Team Leader at M4U Information Technology and Services, acting:

– in the design, development, and operation of systems organized in a cloud microservice architecture composed of a polyglot environment (mainly Java and Golang), to provide integration between M4U partners payment systems and some of the largest Brazilian telecommunications companies, performing real–time payments via REST API Gateway interfaces as well as batch payments processing, using Enterprise Integration Patterns frameworks, Message Brookers, and flat–files following the Febraban formats as well as proprietary ones;

– in the design, development, and operation of a highly available and scalable Cluster of services using AWS Route53, ALB, APIGateway, and ECS services configured to autoscale EC2 machines as well as Docker contained applications, and developed following Infrastructure as Code practices using Terraform;

– in the application of Continuous Deployment using Atlassian bitbucket pipelines and AWS CodeDeploy with Canary deployment;

– in the development and operation of a centralized log and metrics system using Elastic stack, as well as New Relic for infrastructure and applications monitoring;

– as Technical Leader and mentor, in promotion of Agile practices and Scrum as well as DevOps, Gitflow, and clean programming practices principles and methodologies like SOLID, automated tests, TDD, DDD, Clean Architecture.

November 2014 – January 2018   **Senior System Analyst and Team Leader**

Organization name   Infax Tecnologia e Sistemas Ltda / LIneA (National Observatory), Rio de Janeiro – Brazil

Description   Coordinator of the development team, and System Architect at LIneA (Inter–institutional Laboratory for e–Astronomy), acting:

– in the promotion of cooperation between members of several institutions of collaboration in which LIneA is part of;

– in the analysis of collaboration demands, defining the requisites, planning and following the tasks of the IT team;

– in the design and development of DES Science Portal system, used for visualization and analysis of terabytes of data coming from astronomic surveys such as the Dark Energy Survey, using Python, PostgreSQL, and automatic CRUD code generation of classes that access the database data. The code generation was achieved with the development of a C++/QT plugin for the pgModeler project;

– in the design and development of the system used in the LIneA computer Cluster (composed of thousands of cores) to manage the processing of scientific workflows, using Python, HTCondor, Hadoop, Lustre, and PostgreSQL;

– in the design and development of a specific MapReduce implementation for Science Portal, using HEALPix indexation to make available the decomposition of astronomical data to units of select size and its recomposition in a transparent way;

– in the wrapping of scientific codes in order to be executed in computer Grids of LIneA collaborating institutions, such as the Fermilab's GPGrid;

– in the design and development of the LIneA Science Server for the visualization of the Dark Energy Survey public data release, using ExtJS, DjangoREST, and Oracle;

– in the administration and maintenance of the numerous LIneA services and servers.

Publications   – The Dark Energy Survey: Data Release 1. The Astrophysical Journal Supplement Series, 2018;

– DES science portal: Creating science–ready catalogs. Astronomy and Computing, 2018;

– DES science portal: Computing photometric redshifts. Astronomy and Computing, 2018.

March 2013 – November 2014   **Senior Programmer Analyst**

Organization name	PUC–Rio / GTEP, Rio de Janeiro – Brazil
Description	Senior Programmer Analyst at GTEP laboratory (Group of Technology and Petroleum Engineering at PUC–Rio University), acting:

- in the organization of development tasks using the MantisBT system;
- in the development of the real–time analysis system of wells stability during drilling SestTR, using C#/WPF with VisualStudio and TeamFundation;
- in the maintenance of the legacy system for deterministic well stability simulation Sest5, using C++/Windows–Form with VisualC++ and Visual SourceSafe.

Complementary activities:

- encapsulation of the legacy desktop application Sest5 to be transformed into a Web application in C++ running in GNU/Linux, using CppCms and AJAX interfaces;
- refactoring using the MVP pattern in C# as an alternative to MVVM to facilitate the creation of automatized tests for interfaces;
- attending at PUC–Rio university course for graphic card programming using CUDA;
- participation in the "Workshop TDD para profissionais" and "Workshop Domain Driven Design" workshops of Caelum company.

January 2010 – January 2013	## Programmer Analyst and System Administrator
Organization name	Vitesoft Informatica Ltda, Rio de Janeiro – Brazil
Description	Programmer Analyst as well as GNU/Linux and Microsoft Windows System Administrator at Vitesoft Informatica Ltda. company, acting:

- in the development of the VSCyber lan–house manager system, using C#/WPF for Microsoft Windows platform, C++/Gtkmm for GNU/Linux platform, and Firebird as database;
- in the implementation of the automatic import process from dozens of competitor companies software, migrating the data from various database managers (i.e. InterBase) as well as from textual or binary flat–files of proprietary format;
- in the database remodeling as well as in the system generalization and architectural multi–tier separation using the concepts of DDD and MVP, implementing the support for different database managers;
- in the development of programs for automatic code generation of classes for database data access, using ErWin and Enterprise Architect;
- in the administration of Debian GNU/Linux servers and Microsoft Windows Server 2003 servers as well as Apache HTTPd and Varnish HTTP Cache accelerator services.

Complementary activities:

- automatic code generation and generation of database schema from UML models, using Eclipse Modeling tool with the Acceleo plugin;
- application of PDCA methods for the continual improvement of company processes;
- participation in workshops and application of Lean Startup and Design Thinking methodologies to discover new business areas for the company.

April 2009 – August 2009	## Collaborator
Organization name	Jogobrasil.net, Rio de Janeiro – Brazil
Description	Collaborator at Jogobrasil.net company, acting in the maintenance and management of the administration system of online games.
	Complementary activities:

- design and development of an online multiplayer card game with C++/Flash (using Haxe tool) and communication protocol over TCP/IP.

January 2009 – March 2009	**Java J2EE Developer**
Organization name	ICM Italia s.p.a., Rome – Italy
Description	Java J2EE Developer at ICM Italia s.p.a. company, acting in the development of Web applications using Struts, Spring, Hibernate frameworks with Jboss application server.

February 2008 – December 2008	**Java/PHP Developer and GNU/Linux System Administrator**
Organization name	CinquePuntoCinque, Rome – Italy
Description	Java and PHP Developer as well as GNU/Linux System Administrator at CinquePuntoCinque company, acting:

– in the development of Dollaropoker Texas hold 'em online multi–player card games, using Oracle database and multi–thread Java programming for the real–time management of thousands of players simultaneously;

– in the development of PHP Web services for customer accounts integration to allow financial transactions between game platforms of different company partners;

– in the database migration from PostgreSQL to Oracle;

– in the administration of Debian GNU/Linux servers and Apache HTTPd services as well as in the configuration of replication and backup services for Oracle 10g, using Stream Replication and RMAN Incremental backup technologies.

EDUCATION AND TRAINING

February 2015 – July 2017	**Master's Degree in Production Engineering and Systems** ISCED 747
Institution name	CEFET/RJ – Centro Federal de Educação Tecnológica Celso Suckow da Fonseca, Rio de Janeiro – Brazil
Final grade	2.57 of 3
Dissertation title	Sequence Mining in Spatial–Time Series
Advisors	Eduardo Soares Ogasawara, and Florent Masseglia
Description	Sequential pattern detection on spatial–time series, starting from data–mining algorithms commonly used in transactional databases (Apriori, Agrawal et al., 1995) and implementing a novel algorithm (STSM) to be used to mining knowledge from spatial–time series of seismic datasets, employing C++ and R languages.
Publications	– Discovering Tight Space–Time Sequences. In: 20th International Conference on Big Data Analytics and Knowledge Discovery – DaWaK 2018, 2018;
	– Spatial Sequential Pattern Mining for Seismic Data. In: 31 Simpósio Brasileiro de Banco de Dados – XXXI SBBD, 2016;
	– Exploring machine learning methods for the Star/Galaxy Separation Problem. In: IEEE International Joint Conference on Neural Networks – IEEE WCCI 2016, 2016.

February 2012 – January 2015	**Technological Higher Education Degree in Internet Systems** ISCED 655
Institution name	CEFET/RJ – Centro Federal de Educação Tecnológica Celso Suckow da Fonseca, Rio de Janeiro – Brazil
Final grade	9.45 of 10
Final project title	Métodos de Agrupamento de Acessos Baseados em Fluxos de Requisições de Servidores Web (Clustering methods based on flows of Web Servers requests)
Description	Detection of Web Server requests patterns used to distinguish between real users and search engine Web crawlers, using clustering algorithms (K–means and DBSCAN) with Java and R language applied to logs files of Apache HTTPd Web Server.

Activities	Software:

- **Animabus**: Quality evaluation system for Rio de Janeiro public bus transportation service, cross–checking the GPS Rio bus positions and the accelerometer with GPS data of the bus passenger smartphones (Science outreach project for PROEXT 2015);
- **SCA**: Evaluation system developed at CEFET/RJ, integrated to the Moodle system and used since 2015;
- **SMAL**: Support request management system for the maintenance of computers' labs developed at CEFET/RJ.

2011 – 2011	**Enrolled in the Computer Science course**
Institution name	UGF – Unversidade Gama Filho, Rio de Janeiro – Brazil

2003 – 2004	**Enrolled in the Informatics Engineering course**
Institution name	Tor Vergata – Università degli Studi di Roma Tor Vergata, Rome – Italy

1997 – 2002	**Higher level technical degree** ISCED 550
Institution name	Higher level technical school I.T.C.G. Enrico Fermi, Tivoli (RM) – Italy
Education	Specialization in Surveying
Activities	Topography, computer–aided design (AutoCAD), design, construction, as well as electric, heating, and hydraulic installations.

TECHNICAL SKILLS

Programming languages (frameworks/libraries)

Static type:
- C/C++/C++11: CMake, CppUnit, ApachePortableRuntime, CppCMS, OpenGL, GTKmm, Restbed, sqlpp11, CppUTest, Catch2, Poco, Boost, QT, WT, FastCGI, MoSync, Tnt
- Java: Maven, Spring Boot, Micronaut, Hibernate, Apache Camel, Struts, Spring Cloud, Junit, Mockito
- C#: WPF, .Net, NUnit
- Golang: Echo, Gorm, Logrus, Gocheck

Dynamic type:
- Python: Django / DjangoREST, Turbogears
- Ruby: Rails, Resque, RSpec
- Javascript: JQuery, AngularJS, ReactJS, Webpack, Jest
- R language: TSMining, kmeans, dbscan, kohonen, fpc, ggplot2
- Bash script, HCL/Terraform, Ansible, Lisp, PHP

Architecture / Infrastructure

Design patterns:
- Microservices, Clean Architecture, Hexagonal, CQRS, DDD, Passive View, TDD

Cloud:
- AWS Cloud: EC2, ECS, CodeDeploy, Lambda, S3, RDS, SNS/SQS, Route53, ALB, APIGW, CloudFront, Secrets Manager/Parameter Store, Cognito, Certificate Manager, LightSail
- Netflix stack: Eureka, Config Server, Zuul Proxy, RabbitMQ
- New Relic, Kibana/ElasticSearch, Grafana/Prometheus/Loki

Databases:
- PostgreSQL, Oracle 10g, Firebird, MySQL, Redis, MongoDB

Services / Softwares:
- Apache HTTPd, Nginx, Bind, Squid, Varnish, Vsftpd, Samba
- Chroot jail tool, Systemd, Docker
- Debian GNU/Linux – experienced, +10 years

Parallel Computing	Data Parallelism: Hadoop MapReduce, Spark
	Task Parallelism: HTCondor
	Distributed Filesystems: Lustre, HDFS
	GPU Computing: Nvidia CUDA, OpenCL

Development Tools	I.D.E / Editors: Eclipse CDT / JEE, VisualStudio, Emacs, XCode
	Modeling and UML: Eclipse Modeling with Acceleo code generator, Enterprise Architect, ErWin, Astah
	Version Control: Git, SVN, VSS
	Debuggers / Profilers: DDD, gdb, Perf, Valgrind
	CI/CD: TravisCI, GoCD, Bitbucket Pipelines, Gitlab CI/CD
	Project and management tools: Jira, MantisBT, Smartsheet, Trello, Projectbuilder, Trac
	Others: AutoCAD, LaTeX

PERSONAL SKILLS

Mother tongue   Italian

Other languages

UNDERSTANDING		SPEAKING		WRITING
Listening	Reading	Spoken interaction	Spoken production	
English				
B1	C1	A2	B1	B2
Portuguese				
C2	C2	C1	C1	C2

Levels: A1 and A2: Basic user – B1 and B2: Independent user – C1 and C2: Proficient user
Common European Framework of Reference for Languages

Driving licence   European category B; brazilian category B.

Additional information   Permanent brazilian visa (CB).

Interest in embedded systems, electronics, robotics, and domotics (Arduino, Epia / Mini–ITX).

Particular interest in architectural patterns, Microservices, Design Patterns, Test Driven Design, Domain Driven Design as well as Lean Startups, and Design Thinking.