Cristian Rosa

Ph.D. in Computer Science

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Argentinian Nationality

Education

2011 **Ph.D. in Computer Science**, *Université Henri Poincaré – Nancy 1*.
Thesis: "Performance & Correctness Assessment of Distributed Systems".
Advisors: PhD. Stephan Merz and PhD. Martin Quinson

2008 **M.Sc. in Computer Science**, *Universidad Nacional de Rosario*, Argentine.
Grade point average: 8.4 out of 10 (honours), Rank: 5 out of 180.
Thesis: "Formal Specification of the RBAC Model in the Calculus of Inductive Constructions".
Advisors: M.Sc. Carlos Luna and PhD. Gustavo Betarte.

1999 **High School**, *Instituto Politécnico Superior "General San Martín"*, Rosario.
Technical degree with specialization in electronics

Professional Experience

February 2015 – Current **Postdoctoral position**, *CIFASIS-CONICET*, Rosario, Argentina.
Research work in the area of model-based testing applied to software systems.

September 2014 – February 2015 **Architect**, *GoBaller, LLC*, Cleveland, USA.
Backend architect of a social discovery application for sports fans. The backend platform curates social media information and drives both the web and mobile front-ends. The main technologies involved are Java, Cassandra, DropWizard, Ionic.

November 2013 – August 2014 **Architect**, *Waagle Inc.*, New York City, USA.
Responsible for the architecture of a social media news aggregator startup. We collect, classify, aggregate, index and summarize news feeds from social networks. The goal is to create a robust platform that integrates state of the art algorithms for data processing. The challenge is to execute it with a team that is distributed around the globe. The main techologies involved are Java, RabbitMQ, Cassandra, HBase, and Hadoop/MapReduce.

February 2013 – April 2014 **Solution Architect**, *General Motors Argentina S.A.*, Rosario, Argentina.
Design, estimate, and execute changes in GM's Global Corporate Functions systems.

April 2012 – February 2013 **Research Work**, *Hewlett-Packard Argentina*, Rosario, Argentina.
Research engineer in the area of distributed system simulation. We conducted two research initiatives with focus on the simulation of an OpenStack cloud.

November 2008 – November 2011 **PhD. Work**, *Université Henri Poincaré – Nancy 1*, Nancy, France.
Research work directed towards the assessment of distributed systems in both performance and correctness aspects. It comprised two modules:

1. Development of an explicit state model checker for distributed systems to perform verification of safety properties.
2. Parallelization of the simulation framework to scale-up CPU-bounded simulations (performance analysis).

January 2005 – March 2006 **IT Re-engineering**, *Physics Institute of Rosario, CONICET*, Rosario.
The goal was to minimize the administration time, and to provide an homogeneous, stable and fault-tolerant environment to the users of the computing cluster.

March 2004 – July 2004 **Developer**, *Honorable Concejo Deliberante de la Ciudad de Rosario (Rosario City Council)*, Rosario, Argentina.
Development of a web interface to query the municipal bylaws.

December 1998 – March 2004 **Developer / System Administrator**, *Tesis S.A.*, Rosario.

Skills

- Excellent predisposition to challenges
- Distributed teamwork (multidisciplinary, multilingual, and multicultural)
- Advanced experience of system design and programming
- BigData: Cassandra, HBase, Hadoop/MapReduce, Spark
- Sun Java Certified Programmer 6.0 (SJCP 6.0)
- Functional Programming (Scala, ML, Haskell)
- Advanced C programming
- Software development for GNU/Linux environments
- Formal methods for program verification

Languages

Spanish	**Native Language**	
English	**Excellent**	*6 years of study*
French	**Very good**	*3 years of research work in France*

Teaching

2007 **Teaching Assistant**, *Universidad Nacional de Rosario*.
I gave exercise classes for the Computer Architecture course. This position was obtained through an official competitive exam organized by the university.

Publications

With acts

[1] Stephan Merz, Martin Quinson, and Cristian Rosa. Simgrid MC: Verification Support for a Multi-api Simulation Platform. In *31th Formal Techniques for Networked and Distributed Systems – FORTE 2011*, pages 274–288, Reykjavik, Iceland, June 2011.

[2] Martin Quinson, Cristian Rosa, and Christophe Thiery. Parallel simulation of peer-to-peer systems. In *Proceedings of the 2012 12th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (ccgrid 2012)*, CCGRID '12, pages 668–675, Washington, DC, USA, 2012. IEEE Computer Society.

[3] Cristian Rosa and Carlos Luna. Análisis Formal del Estándar NIST para Modelos RBAC. In *V Congreso Iberoamericano de Seguridad Informática – CIBSI '09*, pages 250–269, Montevideo, Uruguay, 2009.

[4] Cristian Rosa, Stephan Merz, and Martin Quinson. A Simple Model of Communication APIs –

Application to Dynamic Partial-order Reduction. In *10th International Workshop on Automated Verification of Critical Systems – AVOCS 2010*, pages 137–151, Dusseldorf, Germany, September 2010.

Without acts

[5] Cristian Rosa, Martin Quinson, and Stephan Merz. Model-checking Distributed Applications with GRAS. In *Workshop on Exploiting Concurrency Efficiently and Correctly – (EC)^2 (associated to the CAV conference)*, page 11, Grenoble, France, June 2009. Also available as Research Report 7052 INRIA `http://hal.inria.fr/inria-00422159/en/`.