Cristiano Rafael da Silva Sousa

Personal Information	*Date of birth:* 20th September, 1991
	Place of birth: Amsterdam, Netherlands
	Nationality: Portuguese

Contact

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Summary

Cristiano is a Consultant in the Consulting practice for the Financial Services Industry at Deloitte. He currently is working on a web-based application that supports IFRS9 Impairment calculation, with a strong focus on both the user interface, and the back-end calculation processes and its computational performance.

Research interests

Taking advantage of *multi-core* and *many-core* architectures in order to increase application performance, efficient algorithmic and data structure design, platform-independent design of parallel algorithms, static verification of source code, correct software advocate, graph theory and algorithms.

Education

Master Degree in Informatics Engineering   September 2012 - December 2014
University of Minho, Braga, Portugal
Completed with a grade of 18 out of 20 (*Class A on the ECTS grading scale*)

Disseration
Obtained a grade of 19 out of 20 (*Class A on the ECTS grading scale*)

Cristiano Rafael da Silva Sousa. Efficient Sequential and Parallel Versions of MST-solvers for Multi-Core CPU-Chips and GPUs. Master thesis, University of Minho, 2014

Areas of Specialization

- **Parallel and Distributed Computing** - Completed with a grade of 17 out of 20

- **Formal Methods in Software Engineering** - Completed with a grade of 17 out of 20

Bachelor Degree in Informatics Engineering   September 2009 - July 2012
University of Minho, Braga, Portugal
Completed with a grade of 15 out of 20 (*Class A on the ECTS grading scale*)

Professional Experience

Deloitte Portugal   September 2015 - Ongoing
Lisbon, Portugal
Consultant in the Consulting practice for the Financial Services Industry, Strategy and Operations, Applied Analytics and Research service line.

Deloitte Portugal   October 2014 - August 2015
Lisbon, Portugal
Analyst in the Consulting practice for the Financial Services Industry, Strategy and Operations, Applied Analytics and Research service line.

Research Grant Holder   April 2014 - September 2014
HASLab - DI, University of Minho, Braga, Portugal
Maintainability Analysis of the Robot Operating Systems (ROS) Guardian modular robot Package. Work carried out in the context of a research grant, under supervision of Professor Jorge Sousa Pinto,

PhD. Reference: BI1-2014_PTDC/EIA-CCO/117590/2010_UMINHO PTDC/EIA-CCO/117590/2010

Hostels4ALL Project Manager   September 2013 - February 2014
UCE15 curricular unit, MSc Informatics Engineering at the University of Minho, Braga, Portugal.
Hostels4ALL is a cloud based application that allows hostel owners manage their properties in-house, while maintaining transparent synchronization of the reservations with major hostel booking websites, automatic submission to immigration services and billing. The application was developed through use of Ruby on Rails, HTML, CSS and jQuery. During this project, aside from being the Project Manager, I also integrated the development team, focusing on the synchronization of local reservations and remote reservations made on booking sites.

Research Grant Holder   April 2013 - September 2013
CCTC - DI, University of Minho, Braga, Portugal
Integration in the *Per-Fide* team. Improvements on the front-end workflow and *TMX* quality metrics. Work carried out in the context of a research grant, under supervision of Professor José João Dias de Almeida, PhD.
Reference: UMINHO/BIC/10/2013 PTDC/CLE-LLI/108948/2009

Research Intern   July 2013 - August 2013
Institute for Computational Engineering and Sciences, University of Texas at Austin
Implementing *METIS*, a graph partitioning algorithm, in *CUDA*, based on a version implemented in the Galois framework. Work carried out in the context of the UT Austin|Portugal 2013 program, under advisory of Rupesh Nasre, PhD, and supervision of Keshav Pingali, PhD.

Research Grant Holder   October 2012 - December 2012
CCTC - DI, University of Minho, Braga, Portugal
Implementing and extending the already existing DSL (*Passarola*) for exercise generation in order to support automatic and semi-automatic exercise verification. Work carried out in the context of a research grant, under supervision of Professor José João Dias de Almeida, PhD.
Reference: UMINHO/BIC/31/2012 Pest-OE/EEI/UI0752/2011.

PUBLICATIONS

- Cristiano da Silva Sousa, Artur Mariano, and Alberto Proença. A Generic and Highly Efficient Parallel Variant of Borůvka's Algorithm. In *23rd Euromicro International Conference on Parallel, Distributed, and Network-Based Processing*, 2015

- Cristiano Rafael da Silva Sousa. Efficient Sequential and Parallel Versions of MST-solvers for Multi-Core CPU-Chips and GPUs. Master thesis, University of Minho, 2014

- Nuno Carvalho, Cristiano da Silva Sousa, Jorge Sousa Pinto, and Aaron Tomb. Formal Verification of kLIBC with the WP Frama-C Plug-in. In *NASA Formal Methods*, pages 343–358. Springer, 2014

TECHNICAL SKILLS

Programming Languages:
- **Imperative** - C, C++
- **Object Oriented** - Java, C#
- **Scripting** - Perl, Ruby
- **Functional** - Haskell
- **Web Development** - HTML, PHP
- **Relational** - PL/SQL, T-SQL

Libraries and Frameworks:
- **Parallel Programming** - OpenMP, OpenMPI, CUDA, POSIX Threads, Intel TBB
- **Web Development** - Rails, ASP.NET Web Forms
- **Computer Graphics** - OpenGL

Tools and Applications:

- QlikView
- Frama-C and Weakest Precondition Calculus (WP) plugin
- Adobe Photoshop, After Effects, Premiere Pro

Organizational and Social Skills

- Student sub-delegate first year of BSc.
- Student sub-delegate second year of BSc.
- Student delegate first year of MSc.
- I usually assume the role of leader in group projects.
- Experience with working with new people and technologies, acquired during internship abroad.
- I'm very autonomous and proactive.
- Used to working in high pressure environments.
- I'm very curious and interested in learning new things.

Languages

Native Languages: Portuguese, Dutch.
Other Languages English.

Interests

Passion and experience for photography. Portfolio available at flickr.com/beatgodes.