Nuno Diegues

Curriculum Vitae

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Education

2012–2016 **Ph.D. in Computer Engineering**, *Instituto Superior Técnico*, University of Lisbon, *Grade: Approved with Distinction and Honor*; 15+ peer-reviewed papers published.
Topic: algorithms for serializable transactions that are faster and more scalable than existing solutions without asking the programmer for any additional work.

2010–2012 **M.Sc. in Computer Engineering**, *Instituto Superior Técnico*, University of Lisbon, *Grade: 19/20*.
Specialization in Distributed Systems and Software Engineering

2007–2010 **B.Sc. in Computer Engineering**, *Instituto Superior Técnico*, University of Lisbon, *Grade: 15/20*.

Experience

2016 **Feedzai**, *Senior Software Engineer*, Lisbon, Portugal.
Core product developer working with real-time stream processing and large scale machine learning.

2015
3 months **Google**, *Software Engineer*, Pittsburgh, USA.
Development of a monitor and debugger for real-time performance in a large-scale streaming system in the Advertisement Product Area.

2014
5 months **Google**, *Software Engineer*, Zurich, Switzerland.
Development of a large-scale data management system with soft real-time performance constraints in the YouTube Analytics team.

2010–2011 **FenixEdu**, *Developer*, Lisbon, Portugal.
Development of the doctoral studies platform for the back-office of the FenixEdu platform (used at Instituto Superior Técnico) and large-scale, programmatic source code refactoring.

Awards

2014 Best Paper at USENIX ICAC and runner-up for Best Paper at ACM/IEEE PACT

2012 Best Master student finalist in my degree and top 7 across the University of Lisbon

2011 Best first year student in my Master degree

Selected Research Papers (among over 15 papers)

ACM TOPC "Time-Warp: Efficient Abort Reduction in Transactional Memory", Nuno Diegues and Paolo Romano, in ACM Transactions on Parallel Computing, 2015

PACT 2014 "Virtues and Limitations of Commodity Hardware Transactional Memory", Nuno Diegues, Paolo Romano and Luís Rodrigues, in ACM/IEEE International Conference on Parallel Architectures and Compilation Techniques, 2014

ICDCS 2014 "STI-BT: A Scalable Transactional Index", Nuno Diegues and Paolo Romano, in IEEE International Conference on Distributed Computing Systems, 2014

Programming Experience

Java expert, concurrent programming, distributed programming, bytecode rewriting

C++ mild acquaintance, concurrent programming, virtual machines, Google internships

Android beginner acquaintance, hackatons, college course

Scala novice, curious about it, read two books, Coursera course

Interests

Performance Most of my research and work so far has a common concern: **high performance requirements**. These days, accommodating those entails exploring hardware parallelism, be it in large multi-core machines or clusters of machines (possibly both combined!). One of my passions is in developing middleware software that enables applications to take advantage of such parallelism.

Large Scale The sheer amount of data that is generated every day is pushing the limits of existing computer systems. Both in my research, and of course in my internships at Google, I have worked on projects that dealt with massive amounts of data. Interestingly, **the more data we have, the more we feel the need to process it faster and with low latency**. This also opens a lot of interesting challenges in many areas that I enjoy exploring.

Other Activities

2013 Appy Day BPI: 24h contest with an Android app similar to Guitar Pro

2012 Sapo Codebits: 48h contest with an Android app to learn to program

2011–2012 Sapo Codebits Labs: year long development of ParkAlert project; won 2^{nd} place

2011 Sapo Codebits: 48h contest with an Android app to manage car parking; 7^{th} place

2007 Cambridge Certificate of Proficiency in English