Paulo Oliva

Curriculum Vitae

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Interests

Functional Programming, Algorithms, Software Verification

Education

PhD in Theoretical Computer Science, University of Aarhus, Denmark, 2003

BSc Computer Science (with honours), Federal University of Pernambuco, Brazil, 1998

Technical Degree in Electronics, Federal Technical School of Pernambuco, Brazil, 1994

Research Experience

Reader in Mathematical Logic, QMUL, UK, *2012 – present*

In recognition of the excellence of my research, I was promoted to Reader in 2012. In 2012 I also started to teach the new MSc module on functional programming (using Haskell). I have recently been appointment director of outreach, as a result of my commitment to engage with school kids through visits to school and programming workshops run at Queen Mary.

Lecturer, QM University of London, UK, *2006 – 2011*

I was hired as a full-time Lecturer in 2006. In this period I continue to work on proof theory, theoretical computer science and applications to mathematics. I also taught several Computer Science modules, as detailed in the following section.

Post-doctoral Researcher, QM University of London, UK, *2004 – 2006*

I moved to London in 2004 to work in the project *Computational Logic for Control Systems*, led by Professor Ursula Martin. The goal of the project was to develop a technology for the verification of control systems, as used by engineers.

PhD, University of Aarhus, DK, *1999 – 2003*

During my PhD I investigated computational interpretations of formal systems, similar to the Curry-Howard correspondence between proofs in minimal logic and terms of the λ-calculus, and their applications to proofs in mathematics.

Involvement in ACM ICPC (Programming Competition)

As Organiser for Queen Mary (local) Competition, *2006 – present*

I have been running a Queen Mary Programming Competition since 2006. Each year around fifty (50) students from the school of Electronic Engineering and Computer Science take part in the competition. My tasks involve preparing the problem sets, coding solutions and preparing data sets. I normally coordinate a small group of volunteer PhD students / post-docs who help in the competition.

As Organiser for South-American Regional, *2001 – 2005*

After taking part in the ACM programming competition for four years in Brazil, I was invited to take part in the team preparing the problems for the competition. My tasks included: suggested new algorithmic problems, providing a solution in either Java or C, and providing a data set to be used as test during the competition.

As Contestant, Federal University of Pernambuco, Brazil, *1996 – 1998*

- South-American representative on the ACM World Finals, 1999, Eindhoven
- 2nd place, South-American Regional of the ACM Programming Contest, 1998
- 2nd place, South-American Regional of the ACM Programming Contest, 1997
- First National Programming Contest, representing the UFPE (CONSUN'1996)

Selected Research Publications

- *Sequential games and optimal strategies*
  with Martín Escardó, Proceedings of the Royal Society A, 467:1519-1545, 2011

- *A general framework for sound and complete Floyd-Hoare logics*
  with Rob Arthan, Ursula Martin, Erik Arne Mathiesen, ACM Transactions of Computational Logic, 11(1):1-31, 2009

- *Hoare logic in the abstract*
  with Ursula Martin, Erik Arne Mathiesen, Proceedings of CSL'2006, LNCS 4207:501-515, Springer, 2006

- *Polynomial-time algorithms from ineffective proofs*
  Proc. of the Eighteenth Annual IEEE Symposium on Logic in Computer Science LICS'03, pages 128-137, 2003

- *Reporting Exact and Approximate Regular Expression Matches*
  with K. Guimaraes and E. W. Myers, Proc. Ninth Combinatorial Pattern Matching Conference, Springer LNCS 1448:91-103, 1998

Selected Invited Talks

- *Seminar speaker*: Florida Atlantic University, USA, August 2012
- *Plenary speaker*: Logic Colloquium 2010, Paris, France, 25 - 31 July 2010
- *Invited speaker*: Computability in Europe special session, Portugal, Jun 30 - Jul 4 2010
- *Plenary speaker*: Compute Science Logic conference, Coimbra, Portugal, 2009
- *Seminar speaker*: Imperial College, UK, November 2009

Teaching

- *Web Programming* (Spring 2015). I am currently preparing a new module on Web Programming to be run next year for third year students.
- *Functional Programming* (Fall 2012, Fall 2013). Module for MSc students covering different aspects of functional programming through the use of Haskell.
- *High-performance Computing* (Fall 2010). I stepped in at short notice to cover the final weeks of this module on parallel programming, as the main lecturer passed away. The module used C programming combined with the MPI library.

Prizes and Distinctions

- Representative of the Brazilian computer science students on the First Youth Summit, taken place during the IFIP'98 Congress, Austria-Hungry, Aug 1998.
- Honors received for best overall grade (9.14 out of 10.00) among all the computer science students graduating in 1998, Federal University of Pernambuco.
- 1st place, of the Natural Science Faculty, on the admission contest, COVEST-1994, for the Federal University of Pernambuco.
- 2nd place, among all faculties, on the admission contest, COVEST-1994, for the Federal University of Pernambuco (among approximately 30 thousand candidates).
- *Languages spoken*: Portuguese, English and Danish.

Hobby

I have recently developed the website my-movies.info as a spin off following my teaching of Haskell. The website tries to exemplify what in my view is the future of web systems, namely the "putting together" of information that is spread around the Web. In this case I wrote a Haskell program that downloads to TV movies listing from tvguide.co.uk, finds, using Google, for each movie the review page on rotten tomatoes, and the trailer on youtube, and puts it all together, to help the best choose what movie to watch or record next.