



RESUME

PERSONAL DATA

Name: Luis Carlos Carneiro Gonçalves

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Professional Career

- Ported program of Motorola DSP board (16 bits) to Texas Instruments LAUNCHXL-F28069M for Allied Motion, Vila do Conde, Portugal.
- Realization of two Software Projects for Globe Motors (now Allied Motion), Vila do Conde, Portugal involving C programming of a DSP and LabView. Done a third project which includes beyond DSP programming and LabView, a hardware circuit design. The drive of the Motors were with PWM (from DC to Three Phase). Them all were for a test production place. The achievements were more reliability in the tests and less time of the tests. The all production chain time was shortened.
- Maintenance and Development Engineer from March 1998 to February 1999 at MARTONIC. The maintenance work was done mainly on glass working machines and saw machines on electronic circuits.
- Maintenance Engineer from October 1997 to March 1998 at BLAUPUNKT. Mainly the work was the data treatment of a database (DBase).
- Computer Engineer from April 1996 to October of 1997 at BLAUPUNKT.
- Process Engineer at BLAUPUNKT, Audio and Video Company in Braga, Portugal from April of 1992 to April of 1996.
- Equipment Engineer at TEXAS INSTRUMENTS, Maia, Portugal in October of 1991 to April of 1992.

Academic Career

- From 16th January 2020, PostDoc Researcher at ESAN/University of Aveiro in Medical Image Processing. Project ARTHUR. 3D Image Registration. Packages SimpleITK, PyCuda.
- From 1st June 2018 to December 31, 2019, Researcher from Institute of Telecommunications at Aveiro in 5G Telecommunications. Projects Mobilizador 5G and ORCIP. Subjects: OpenAirInterface, 5G.
- Post-Doc Researcher at INESC TEC (Vila Real, Portugal) in Image Processing from 1st March 2017 to 28th February 2018. Knowledge, Mantiuk'08 TMO, IOIndustries Flare Camera + BitFlow Frame Grabber , Debevec Photo Merge, Photo Debayer, OpenCV, PFStools, HDRtools
 - Successfully reimplemented a widely used and highly regarded tone mapping algorithm for integrated High Dynamic Range (HDR) video processing pipeline for object detection and tracking

- Developed a solution to capture and merge in HDR images using Low Dynamic Range Flare image camera
- Post-Doc Researcher at University of Aveiro with grant from Fundação para a Ciência e Tecnologia (FCT) from 1st March 2014 to 28th February 2017.
- Post-Doc Researcher at Institute of Telecommunications at Aveiro with grant from Fundação para a Ciência e Tecnologia (FCT) from 1st June 2013 to 28th February 2014.
- Post-Doc Researcher at Centre of Innovation in Telecommunications and Integration of Services (CITI) of Institut National des Sciences Appliquées (INSA) de Lyon from 1st June 2012 to 31st May 2013.
- Post-Doc Researcher at Institute of Telecommunications at Aveiro with grant from Fundação para a Ciência e Tecnologia (FCT) from 1st March 2010 to 31st May 2012.
- Assistant Professor at Lusófona University at Lisbon from September 2009 to February 2010.
- Invited Lecturer at University of Madeira from September 2004 to August 2008.
- PhD Grant of FCT from December 1999 to December 2003.
- Previous Experiences in Companies - See Section "Career in Companies" below.

Education

- PhD in Electrotechnical Engineering (Telecommunications), Unanimous, in University of Aveiro at 18 September 2009. The title was *Deteção Multiutilizador no Domínio da Frequência para Sistemas DS-CDMA (Multiuser Detection in Frequency Domain for DS-CDMA Systems)*. It is the reference (plus the article *European Transactions on Telecommunications*) to the theoretical application of *Fresh Filters* in frequency domain to DS-CDMA systems.
<http://ria.ua.pt/bitstream/10773/2225/3/2010000093.pdf>
- Degree (5 years) in Electronics and Telecommunications Engineering, at Aveiro University on 1991, with average/grade of 15 on a maximum of 20.
- High School at Maia. Admission at University with an average/grade of 18.7 (Grade to apply to University, Admission Exams Included).

Patents

- Luís Gonçalves (50% share), Diogo Cunha, Atilio Gameiro, *Method to Determine the Delay between Measurements in two or more Spectrum Analyzers or Power Meters*. Conceded at 24th November of 2015 by Instituto Nacional da Propriedade Industrial (INPI). Number 107293B.

[Conceded Patent Link](#)

[Bulletin](#)

Main Published Papers

<http://www.researcherid.com/rid/F-7121-2011>

<http://orcid.org/0000-0001-7358-4113>

* - Attended Conference

- Luis Gonçalves, Rui Martins, António Ferrari, *Realtime Parallel Software Implementation of a DS-CDMA Multiuser Detector*, 13 pages, submitted to a Journal

- Luís Gonçalves, Diogo Cunha, *Method to Determine the Delay between Measurements in two or more Spectrum Analyzers or Power Meters*, Recent Advances in Communications and Networking Technology, Bentham Science Publishers, Volume 5, Issue 2, August 2016
<http://dx.doi.org/10.2174/2215081105666161128142559>
- Luis Gonçalves, Rui Martins, António Ferrari, *Software Parallel Implementation of a DS-CDMA Multiuser Detector*, presented at The 23rd International Conference on Software, Telecommunications and Computer Networks (SoftCOM 2015), Split-Bol (Island of Brac), Croatia, 16-18 September 2015. [Realtime Implementation of the Multiuser Detector studied in the Phd*](#)
<http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=7314124>
- G. Villemaud, L. Gonçalves, M. Luo, J. Weng, P. Wang, *Measurement Campaigns and Model Calibration*, D1.4 Progress Report, iPlan project, March 2013
http://iplan.project.citi-lab.fr/files/D1_4.pdf
- Deepaknath Tandur, Jonathan Duplicy, Kamran Arshad, David Depierre, Janne Lehtomäki, Keith Briggs, Luis Gonçalves, Atilio Gameiro, *MME Approach for Cognitive Radio Systems Evaluation: Measurement, Modeling and Emulation* in IEEE Vehicular Technology Magazine (special issue on applications of cognitive radio networks), Volume 7, Issue 2, pages 77-84, June 2012. 6 citations (ISI), Impact Factor - 4.429
<http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6182685>
- L. Mendes, L. Gonçalves, A. Gameiro, *GSM Downlink Spectrum Occupancy Modeling* in IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC'11), Toronto, Canada, 10-14 September 2011 [Interesting Analysis of the Measurement Setup. Modeling of GSM Spectrum Occupancy.](#) 4 citations (ISI)*
<http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6140021>
- L. Gonçalves, A. Gameiro, *Multi-Sensor Frequency Domain Multiple Access Interference Canceller for DS-CDMA Systems* in European Transactions on Telecommunications, Wiley & Sons, Volume 18, Issue 3, Pages 263–273, April 2007, 1 citation (ISI), [Article of Reference of the use of Fresh Filters in Frequency Domain in Multiuser Detection in DS-CDMA Systems.](#) This detector has advantages in relation to MMSE detector in an implementation in WCDMA-TDD or TD-CDMA (Popular Republic of China). [A chip implementation can have energy savings in mobile phones.](#) , 2 citations (ISI) Impact Factor - 1.535
<http://doi.wiley.com/10.1002/ett.1146>
- L. Gonçalves, A. Gameiro, *Frequency Domain Equalizer for Multirate UMTS-TDD Systems* presented IEEE 2003 International Conference on Communications (ICC'03), Anchorage, Alaska, USA, 11 to 15 May of 2003, [Complexity Analysis - Advantage over MMSE Detector.](#) *
<http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=1204036>

Projects Participation

HDR4RTT (Real Time Tracking and Display of Multiple Objects in Extreme Lighting Conditions), iPlan (FP7), QoS MOS (Quality of Service and MObility driven cognitive radio Systems)(FP7), MATRICE (MC-CDMA Transmission Techniques for Integrated Broadband Cellular Systems)(FP5), ASILUM (Advanced Signal Processing Schemes for Link Capacity increase in UMTS)(FP5), VISEF (Video Coding and Transmission on Wireless Networks) FCT (PRAXIS XXI)

Teaching

- Teaching at University of Aveiro from September of 2014 to January of 2015 on Introduction to Communication and Information Technology to Management Degree (Microsoft Office: Excel, Word, Outlook and PowerPoint).

- Assistant at Lusófona University at Lisbon from September 2009 to February 2010 . Lectures and ruled Signals and Systems (Theoretics and Practice). It was done 13 exercises sheets for teaching support.
- Invited Lecturer at University of Madeira from September 2004 to August 2008. Lectures on
 - Electronics I (Theoretics and Practice) - It was prepared 450 slides to support the lectures
 - Electronics II (Theoretics and Practice) - It was prepared 450 slides to support the lectures
 - Telecommunications Fundamentals (Theoretics and Practice)
 - Telecommunications Fundamentals II (Practice)
 - Telecommunications Systems (Theoretics and Practice)
 - Digital Systems (Practice)
 - Circuits Analysis (Practice).

Student Guidance

- Co-oriented a Master Degree named "Measurements and Analysis of Spectrum Activity" at 14 of July 2011 by Luís Vinhas Mendes with a grade of 17 (in 20).
<http://ria.ua.pt/bitstream/10773/7725/1/244742.pdf>
 This gave rise to a conference article that I attended.
- Orientation of student of University of Kassel (Germany) in university project (done at Blaupunkt).

Experience with Software

- Experience in CUDA and OpenMP in Visual C and Gcc (Eclipse).
- Experience in Python.
- Experience on LabView of National Instruments (Post-Doc) and Agilent ADS.
- Experience in Visual C++ Microsoft Foundation Classes.
- During the PhD acquired experience in simulation software of telecommunications systems, System Studio of Synopsys (before named Cocentric and COSSAP) in SUN and LINUX (C, C++, Fortran).
- All my papers and PhD thesis were written in *Latex*.
- The algorithms of the PhD Thesis were first tested with Matlab. Also the PostDocs involved programming in Matlab. Coding, Interface to Matlab and run of MEX compiled files.
- Experience in Electronic Simulation Program Pspice and MultiSim (Lectures of Electronic I and Electronic II at University of Madeira). Pspice was introduced in the Lectures by me.
- Code Composer Studio (Texas Instruments).
- Maintenance of a Linux Virtual Server (IPv6 Compliant) with Web Server and Email Server. Also not as public domain a webside with Drupal. At <http://www.luisgo.pro>

Languages

Native in Portuguese, Fluent in English, Professional knowledge of French and Basic knowledge German. English – 5 years at High School, one year in University, 4 terms at British Institute (now British Council) at Porto, French – 5 years at High School, German – 1 1/2 years at Blaupunkt.