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EMPLOYMENT

Research Fellow	University of Porto, Portugal	Sep. 2014 – Nov. 2015
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Team Member: SIBILA (Towards Smart Interacting Blocks that Improve Learned Advice) project

- Development of an algorithm to automatically refine Bayesian Networks designed by domain specialists by using structure and parameter learning.
- Built predictive models for breast cancer based on mammography reports.

Research Fellow	Instituto de Telecomunicações, Porto, Portugal	Dec. 2008 – May 2014
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Team Member: DigiScope (Digitally Enhanced Stethoscope for Clinical Usage) project (Jun. 2012 – May 2014)

- Created a set of heart sound features that captures medically relevant information such as presence/absence of heart murmurs.
- Built predictive models to assess heart condition. Clustering, classification and statistical signal processing.

Team Member: Distributed Routing and Infotainment through Vehicular Inter-Networking project (Sep. 2009–Jun. 2012)

- Used mathematical modeling to propose a vehicle-to-vehicle (V2V) communications channel model that accounts for vehicles as 3D obstacles and assessing their impact on vehicular ad-hoc network performance metrics.

Team Member: Network Coding for Robust Architectures in Volatile Environments project (Dec. 2008 – Dec. 2010)

- Investigated the delay distribution of random linear network coding using a Markov chain model.
- Devised a distributed storage scheme that relies on coding to provide a robust and low complexity solution achieving a prescribed level of confidentiality.

Post-Doc Researcher	Pontificia Universidade Católica do Rio de Janeiro	Jan. 2008 – Aug. 2008
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- Channel Estimation and receiver design for OFDM and multicarrier CDMA systems

EDUCATION

Rio de Janeiro, RJ Brazil	Pontifícia Universidade Católica do Rio de Janeiro	1995-1999, 2001-2007
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- Ph.D. in Electrical Engineering, 2007
 - M.Sc. in Electrical Engineering, 2003
 - Diploma in Electrical Engineering, 1999.
 - Relevant Coursework: Random Processes, Statistical Theory of Communications, Information Theory, Detection and Estimation, Neural Networks, Linear Algebra, Calculus, Communications Networks, Communication Systems.
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RESEARCH OUTCOMES

Most Relevant Journal and Conference Publications

- E. Almeida, P. Ferreira, T. T. V. Vinhoza, I. Dutra, Y. Wu, E. Burnside, "ExpertBayes: Automatically Refining Manually Built Bayesian Networks", International Conference on Machine Learning and Applications, Detroit, MI, USA, 2014.
- J. Pedrosa, A. Castro, T. T. V. Vinhoza, "Heart Sound Segmentation and Murmur Detection in Pediatric Phonocardiograms", Proc. of the IEEE EMBC 2014, Chicago, IL, USA, 2014.
- P. F. Oliveira, L. Lima, T. T. V. Vinhoza, M. Medard, J. Barros "Coding for Trusted Storage in Untrusted Networks", IEEE Transactions on Information Forensics and Security, December 2012.
- M. Boban, T. T. V. Vinhoza, M. Ferreira, J. Barros, O. K. Tonguz, "Impact of Vehicles as Obstacles in Vehicular Adhoc Networks", IEEE JSAC (Special issue on Vehicular Communications and Networks), January 2011

ADDITIONAL EXPERIENCE AND AWARDS

- **Teaching:** Taught full-credit graduate level Information Theory course. University of Porto (Winter 2010). TA of several graduate and undergraduate level courses at PUC-Rio (1 per semester from 2002-2008): Random Processes, Probabilistic Models, and Statistical Theory of Communications, among others.
- **Additional Coursework (MOOC):** Coursera: Machine Learning, R Programming, Exploratory Data Analysis, Data Analysis and Statistical Inference, edX: Learning from Data.
- **Awards:** Ciência 2008 research contract by the Portuguese Foundation for Science and Technology, Full M.Sc (2001) and Ph.D. scholarships (2003), Academic Excellence Certificate (1999).

PROGRAMMING LANGUAGES AND TECHNOLOGIES

- Python
- MATLAB/Simulink
- WEKA
- Java (basic), R (basic)