Victor Evangelista | Ph.D. student

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Education

École de Technologie Supérieure **Montreal, QC**
Ph.D.:, Electrical Engineering *2016–present*
GPA: 4.3/4.3

Relevant Coursework: Optimization and Probability and Random Signals 2

Universidade Federal de Pernambuco **Recife, Brazil**
M.Sc:, Electrical Engineering *2015–2016*
GPA: 4/4

Relevant Coursework: Wireless Communications, Digital Communications, Information Theory, Error Correcting Codes

University of Minnesota **Minneapolis, MN**
Science Without Borders Exchange Student, Electrical Engineering *2010–2015*
GPA: 3.056/4

Universidade Federal de Pernambuco **Recife, Brazil**
B.Sc:, Electrical Engineering *2010–2015*
GPA: 8.14/10

Previous Employment

École de Technologie Superieure **Montreal**
Ph.D. Research Assistant, QC *August 2016–Currently*

Modeling and optimization of non-orthogonal multiple access (NOMA) techniques for 5G networks. More specifically, my work focus on user scheduling, channel allocation and power optimization in NOMA heterogeneous networks. I've also been working on a reinforcement learning approach to resource management in wireless networks

Universidade Federal de Pernambuco **Recife**
Graduate Research Assistant, Brazil *July 2015–July 2016*

I worked on a project, on the cryptography laboratory, where I designed a physical layer authentication (PLA) system based on chaotic signatures. I proposed a framework to evaluate the chaotic sequence from a information-theoretic perspective, and derived a lower bound on the security performance of the system with respect to impersonation, substitution and replay attacks. State-of-the-art PLA rely on low SNR signatures, while the proposed system has a theoretical security lower bound independent of noise.

- **École de Technologie Supérieure** **Montreal**
  Mitacs Globalink Research Assistant, QC *May 2014–July 2014*
  Design of a feedback envelope power amplifier to operate on microwave frequencies using CMOS technology.

- **Areva Renewables** **Recife**
  Intern, Brazil *Aug 2013–Mar 2014*
  I was an intern on the automation department. My main duties were documentation of network topology and PLC logic, technical support to the field engineers and dealing with equipment suppliers. In one particular project, I was able to identify the improper placement of a costly flow meter on a cooling pipeline, helping the company avoid further losses.

Technical and Personal skills

- **Programming:** C, C++, Python and Matlab. Knowledge of data structures and algorithms. Machine learning/deep learning frameworks: sklearn, PyTorch and Tensorflow.
- **Telecommunications:** Physical layer security, radio resource management, multiple access techniques (OFDMA, CDMA, NOMA, SCMA), 3G (WCDMA and UMTS), 4G (LTE, LTE-Advanced), multicarrier modulation (OFDM), multi antenna systems (MIMO), channel modeling.
- **Mathematical Programming:** Integer and combinatoric optimization, linear and nonlinear optimization, non-convex optimization, mixed integer nonlinear optimization, game theory.
- **Statistics and Machine Learning:** Data analysis, supervised and unsupervised learning, stochastic geometry, dimensionality reduction, deep neural networks (CNN, RNN, LSTM), random signal processing and reinforcement learning.
- **Other:** Accomplished self learner, always looking forward to learn new skills, work well under pressure and tight deadlines, great team player.

Selected Publications

- Z. Sattar, J. V. C. Evangelista, G. Kaddoum and N. Batani,, 2018. *"Spectral Efficiency Analysis of the Decoupled Access for Downlink and Uplink in Two Tier Network."* arXiv preprint arXiv:1808.02523
- Evangelista, J.V., Sattar, Z., Kaddoum, G. and Chaaban, A., 2018. "Fairness and Sum-Rate Maximization via Joint Channel and Power Allocation in Uplink SCMA Networks." arXiv preprint arXiv:1805.11722.