

PAULO RICARDO BRANCO DA SILVA

Ph.D. in Digital Communication Systems

✉ pauloricardo.branco@gmail.com ☎ +5511955855725 📍 São Paulo, Brazil
in www.linkedin.com/in/paulo-branco-23b689150 🔗 https://github.com/pbranco1987



Work Experience

Vector Calculus Professor

Uniassevi

📅 Sep. 2017 – March 2019 📍 Brusque, Brazil

- Vector fields, gradients, divergence and Stoke's theorems.
- Double and triple integrals and their computer implementations.

Calculus Gradient Laplacian MATLAB EXCEL Spreadsheets

Embedded Systems Lab Assistant

Instituto Mauá de Tecnologia

📅 Jan. 2012 – Dec. 2012 📍 São Caetano do Sul, Brazil

- Work with power-efficient sensor networks, such as ZigBee.
- Use of a Kalman Filter implemented in the softcore LEON 3, which was embedded in a Xilinx FPGA.

FPGAs sensor networks C programming VHDL digital filtering

Communications Engineer

Invensys

📅 Jan 2011 – Jan 2012 📍 São Paulo, Brazil

- Development of systems via GPRS signal detection and power analysis.
- Use of a SCADA-like architecture for remote sensing and control.
- Use of a 16-bit microcontroller's embedded IP stack for internet access (IOT)

Internet of Things GPRS SCADA C programming Shell scripts

Education

Research internship

Imperial College

📅 April 2019 – March 2020 📍 London, United Kingdom

Research on polar codes and LDGM codes for nested lattice shaping under the supervision of Prof. Cong Ling

Ph.D. in Digital Communications - Electrical Engineering

Universidade Federal de Santa Catarina

📅 March 2016 – Sep. 2020 📍 Florianópolis, Brazil

LDPC lattice construction with low-complexity decoding algorithms working in a cooperative framework for high spectral efficiency

Research Master's in Digital Communications - Electrical Engineering

Universidade Federal de Santa Catarina

📅 March 2013 – Nov. 2015 📍 Florianópolis, Brazil

LDPC multilevel codes and BICMs for Compute-and-Forward cooperation schemes

Bachelor's in Electrical Engineering - Electronic Engineering

Instituto Mauá de Tecnologia

📅 March 2007 – Jan. 2012 📍 São Caetano do Sul, Brazil

MOOCs

deeplearning.ai - Ongoing
Johns Hopkins Data Science - Ongoing
IBM Certificate on Data Science - Ongoing
Data Camp - Machine Learning with Python - Ongoing

Skills

Programming

- Python, SAGE, C, R, Java, MATLAB.

Hardware

- Microcontrollers and FPGA's.

Data Science

- Pandas, Matplotlib, Seaborn, SciKitLearn
- Deep Learning: learning PyTorch/TensorFlow

DataBase Management

- Learning MySQL

Logic Skills

- Abstract Algebra
- Probability Theory and Statistics
- Information Theory
- Error Correction Coding Theory
- Computational Complexity Analysis
- Optimization Analysis

Languages

English	TOEFL iBT (117/120)
German	TestDaF (C2)
French	TCF-Tout Public (C2)
Spanish	C2
Italian	A2
Russian	A1
Portuguese	Native

Other Interests

Astronomy Quantum Mechanics
Classical Music Linguistics
Logic Theatre Image Processing
Game Theory Current Events