Carlos Bentes

I am an electronic engineer with experience in software development and neural networks. My objective is to work as a software developer in machine learning and data analysis.

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Technical Skills

- Experience with Deep Neural Networks, SVMs, Ensembling.
- Development of image processing and data analysis algorithms.
- Dataset management with NoSQL and Python.

Tools: Python (Numpy, Pandas, Scikit-learn, Theano, Keras, Matplotlib)
R, C/C++, Java, IDL, HTML, JavaScript, MySQL, MongoDB, KML, Git, PHP, Bootstrap, Linux.

Experience

STACC
Data Scientist
Tartu, Estonia
April 2016 - Present

Text mining, Natural Language Processing
Machine learning with Deep Neural Networks.
Environment: Python (Numpy, Pandas, Scikit-learn, Matplotlib), Elasticsearch, Conda.

German Aerospace Center (DLR)
Research Assistant
Bremen, Germany
April 2013 - March 2016

Improvement of ship detection algorithms in SAR images.
Target classification with Deep Neural Networks.
Data fusion and contextual analysis for maritime applications.
Environment: Python (Numpy, Pandas, Scikit-learn, Theano, Keras, Matplotlib), MongoDB.

Touch Tecnologia
Software Developer
Sao Jose dos Campos, Brazil
2011 - 2012

Developed software for on-line booking, medical procedure auto-scheduling, and resource management of hospital/health-care centers.
Environment: Java, JavaScript, JQuery, HTML, Eclipse, MySQL.

Orbisat da Amazonia
Software Developer
Sao Jose dos Campos, Brazil
2009 - 2010

Implemented and optimized image processing algorithms in Synthetic Aperture Radar (SAR) images.
Developed web applications to support operational field campaigns.
Environment: C/C++, IDL, Java, JavaScript, JBoss Seam, Eclipse, MySQL, Linux.

Google
Intern
Belo Horizonte, Brazil
2008 - 2008

IT residency with focus on project and analysis of algorithms, computer architecture, and C++ programming.
Developed a web search engine prototype composed of three basic modules: Crawler, Indexer, Search.
Environment: C/C++, Linux, Eclipse.

Orbisat da Amazonia
Intern
Sao Jose dos Campos, Brazil
2007 - 2007

Developed and implemented Hardware Interfaces in VHDL to optimize Synthetic-Aperture Radar (SAR) image processing.
Developed Linux Device Driver for PCI hardware communication on FPGA.
Performed Software-Hardware integration, debugging and profiling analysis.
Environment: C/C++, VHDL, FPGA.

Education

- **PhD candidate**
  Technical University of Munich (TUM) - Munich, Germany [2015 - present]
  Topic: "Oceanographic SAR image classification with Deep Neural Network".
- **Master of Science in Electronics and Computer Engineering**
  Technological Institute of Aeronautics (ITA) - SP, Brazil [2009 - 2012]
  Thesis: "Dynamic Formation and UAV Swarm Navigation with Artificial Potential Fields".
- **Bachelor in Electronic Engineering**
  Technological Institute of Aeronautics (ITA) - SP, Brazil [2003 - 2007]
  Final project: "Development of a vector co-processor in VHDL".

Languages

- Native Language: **Portuguese**
- Other Languages:

	Interaction	Reading	Listening	Writing
English	C1	C1	C1	C1
German	A2	B1	B1	A2
Estonian	A1	A1	A1	A1

Awards and Certificates

- **DAAD Scholarship Award** - Deutscher Akademischer Austausch Dienst (DAAD) - 2013/2016
- **SCJP - Java SE 6 Programmer** - Oracle - 2010

Publications

www.cbentes.com/publications.html

Carlos Bentes, Anja Frost, Domenico Velotto, Bjorn Tings, "Ship-Iceberg Discrimination with Convolutional Neural Networks in High Resolution SAR Images", European Conference on Synthetic Aperture Radar (EUSAR), Hamburg, Germany, 2016 (accepted).

Carlos Bentes, Domenico Velotto, Susanne Lehner, "Target Classification in Oceanographic SAR Images with Deep Neural Networks: Architecture and Initial Results", International Geoscience and Remote Sensing Symposium (IGARSS), Milan, Italy, 2015.

Carlos Bentes, Bjorn Tings, Susanne Lehner, "Ship Detection on Wide ScanSAR TerraSAR-X Images", European Conference on Synthetic Aperture Radar (EUSAR), Berlin, Germany, 2014.

Carlos Bentes, Domenico Velotto, Susanne Lehner, "Analysis of ship size detectability over different TerraSAR-X modes", International Geoscience and Remote Sensing Symposium (IGARSS), Quebec City, Canada, 2014.

Carlos Bentes, Osamu Saotome, "Dynamic Swarm Formation with Potential Fields and A* Path Planning in 3D Environment", Robotics Symposium and Latin American Robotics Symposium (SBR-LARS), Fortaleza, Brazil, 2012.

Interests

In my free time I like to explore on-line courses on different subjects (at Coursera and Udacity), and to have fun with Kaggle competitions. I also dedicate my time to my family and hobbies: photography, music, dance, cook, swim.