Paula Alexandra de Oliveira Branco

Curriculum Vitae

Personal Information

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Nationality	Portuguese
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Date of birth	12-02-1978

Education

11/2014 – currently ongoing	**PhD student in the Doctoral Program in Computer Science of the Universities of Minho, Aveiro, and Porto (MAPi joint programme)**, *Curricular year grade:* 18.
9/2011 – 10/2014	**Masters Degree in Computer Science – Specialization in Data Mining and Advanced Data Processing**, *Faculty of Sciences of the University of Porto*, *Grade:* 17.
9/2010 – 6/2012	**Specialization in the Master's degree course in Mathematics for School Teachers**, *Faculty of Sciences of the University of Porto*, *Grade:* 15.
9/1996 – 5/2002	**Degree in Mathematics - Educational Branch (pre-Bolonha Process)**, *Faculty of Sciences of the University of Porto*, *Grade:* 15.

Master thesis

title	*Re-sampling Approaches for Regression Tasks under Imbalanced Domains*
supervisors	Prof. Luis Torgo and Prof. Rita Ribeiro
description	The problem of imbalanced domains was extensively studied for classifications tasks. Several performance assessment metrics were provided and many types of approaches were proposed. Re-sampling methods are among the more popular approaches for coping with the problem of imbalanced domains. Little attention has been given to regression tasks where the distribution of the numeric target variable is imbalanced. In this thesis we address the problem of imbalanced data distributions for regression tasks through re-sampling methods.

Experience

9/2013 – 10/2014	**Researcher**, *LIAAD (Laboratory of Artificial Intelligence and Decision Support) - INESC TEC* , Porto. Development of new strategies for dealing with regression tasks under imbalanced domains Detailed achievements: ○ Literature review and analysis; ○ Implementation and development of new algorithms; ○ Perform computational experiments and conduct statistical analysis of the results;
9/2001 – 8/2013	**Mathematics Teacher**, *Ministério da Educação e Ciência*. ○ Escola Básica Dr. Leonardo Coimbra – Filho, Porto; ○ Escola Secundária José Régio – Vila do Conde; ○ Escola Básica de Rates – Póvoa de Varzim; ○ Escola E B 2, 3 do Marco de Canaveses; ○ Escola E B JI de Cabanas de Viriato; ○ Escola Secundária com 3º Ciclo de Velas – Açores; ○ Escola E B 2, 3 de Castro Daire; ○ Escola Secundária de Arganil; ○ Escola E B 2, 3 de Penalves – Póvoa de Varzim. Main duties: ○ Mathematics lessons for students ranging from 12 years old to adults; ○ National exams evaluation; ○ Responsible for Mathematics subject; ○ Advisor to the Executive Board; ○ Professional Course Director; ○ Class Director; ○ Development of extra curricular activities, math clubs and other math projects for students.

Publications

Peer-reviewed publications

1. Bruno Cavadas, Paula Branco, Sérgio Pereira: **Crime Prediction Using Regression and Resources Optimization.** EPIA2015: 513-524 (2015).
2. Luís Torgo, Rita P Ribeiro, Bernhard Pfahringer, and Paula Branco. **SMOTE for Regression.** EPIA2013: 378-389 (2013).

Journals

1. Luís Torgo, Paula Branco, Rita P. Ribeiro, and Bernhard Pfahringer. **Resampling strategies for regression.** Expert Systems 32(3): 465-476 (2015).

Other

1. Paula Branco, Luís Torgo, Rita P. Ribeiro: **A Survey of Predictive Modelling under Imbalanced Distributions.** ArXiv preprint arXiv:1505.01658 (2015).
2. Paula Branco: **Re-sampling Approaches for Regression Tasks under Imbalanced Domains.** MSc thesis, Faculty of Sciences - University of Porto (2014).

Submitted and pending papers

1. Paula Branco and Luís Torgo and Rita P. Ribeiro: **A Survey of Predictive Modeling with Imbalanced Distributions.** (2015). Submitted to ACM Computing Surveys.

Other Scientific Activities

12/11/2015 – 6/12/2015 **Visiting researcher at Waikato University (Hamilton, New Zealand)**, with Prof. Bernhard Pfahringer.

Reviewer Expert Systems Journal

External Reviewer MACH (Machine learning Journal)

Conferences and Seminars

1. EPIA 2015 XVII Portuguese Conference on Artificial Intelligence. Coimbra, Portugal 8 – 11, September, 2015. `http://www.epia2015.dei.uc.pt/`
2. 5th Porto Meeting on MATHEMATICS for INDUSTRY held in Faculty of Sciences - University of Porto in 10th to 11th April 2014. `http://cmup.fc.up.pt/cmup/mathindustry/2014/index.html`
3. EPIA 2013 XVI Portuguese Conference on Artificial Intelligence. Angra do Heroísmo, Açores, Portugal 9 – 12, September, 2013. `http://www.epia2013.uac.pt/`

Awards

2005 Innovative Teachers Microsoft Forum 2005 Stockholm, representing the Azores – Portugal.

Certificates of complementary education

1. LFS101x: Introduction to Linux – LinuxFoundationX – edX (August 2014)
2. Computing for Data Analysis – Coursera (September 2013 – October 2013)
3. MongoDB for DBAs – M102 – MongoDB (September 2013 – November 2013)
4. Web Intelligence and Big Data – Coursera (August2013 – November 2013)

Grants

1. Scholarship under the FCT PhD program (November 2014 – currently ongoing);
2. Research grant at LIAAD- INESC TEC (February 2014 to October 2014).

Languages

Portuguese	**Mother tongue**	
English	**Proficient user**	
French	**Proficient user**	*Certificate from "Alliance Française"*
Spanish	**Independent user**	
German	**Basic user**	