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My PhD topic is on using deep learning for computer vision. I use TensorFlow and
PyTorch, and I have several fundamental publications on the area. I have been
teacher assistant at FEUP, teaching Python, C and C++. I have participated in several
projects working on web development (flask), databases (mongo, postgres), multimedia
(sdl, gtk, qt) and others.

⊟ Education

(2021)   PhD in Computer Science (currently waiting for defense!)
              co-joint University of Porto, Minho and Aveiro
2015   MSc in Applied Mathematics (Grade=18/20)
              Faculty of Sciences, University of Porto
2012   BSc in Computer Science (Grade=16/20)
              Faculty of Sciences, University of Porto

⊟ Career

2018-2021   Teacher Assistant (Python and C/C++)
                 Faculty of Engineering, University of Porto
2016-2020   PhD Grant (deep learning and computer vision)
                 INESC TEC
2015   Research Grant (machine learning)
                 INESC TEC
2014   Research Grant (epidemiology modelling)
                 Mathematics Center of the University of Porto
2007   Google Grant: Summer of Code (dynamic layouts)
                 OpenOffice.org
2006   Google Grant: Summer of Code (YaST GTK port)
                 Novell / openSUSE

⊟ Awards

2020   Best Oral Presentation: Training Convolutional Neural Networks to be
            Background Invariant
            RECPAD 2020 conference
2021   Pedagogical Recognition Award
            Faculty of Engineering, University of Porto
2021   Sustainable Ideas
            Faculty of Engineering, University of Porto

Publications

2021 Ordinal Losses for Classification of Cervical Cancer Risk [accepted]
T. Albuquerque, R. Cruz, J. Cardoso
PeerJ Computer Science

2021 Background Invariance by Adversarial Learning [accepted]
R. Cruz, R. Prates, E. Filho, J. Costa, J. Cardoso
25th International Conference on Pattern Recognition (ICPR), IEEE

2019 Automatic Augmentation by Hill Climbing
R. Cruz, J. Costa, J. Cardoso
28th International Conference on Artificial Neural Networks (ICANN),
Springer

2019 Averse Deep Semantic Segmentation
R. Cruz, J. Costa, J. Cardoso
41st Engineering in Medicine and Biology Conference (EMBC), IEEE

2019 Insulator visual non-conformity detection in overhead power distribution
lines using deep learning
R. Prates, R. Cruz, A. Marotta, R. Ramos, E. Filho, J. Cardoso
Journal Computers & Electrical Engineering, Springer

2018 A Class Imbalance Ordinal Method for Alzheimer's Disease Classification
R. Cruz, M. Silveira, J. Cardoso
2018 International Workshop on Pattern Recognition in Neuroimaging (PRNI),
IEEE

2018 Binary ranking for ordinal class imbalance
R. Cruz, K. Fernandes, J. Costa, M. Pérez Ortiz, J. Cardoso
Journal Pattern Analysis and Applications, Springer

2018 Deep image segmentation by quality inference
K. Fernandes, R. Cruz, J. Cardoso
International Joint Conference on Neural Networks (IJCNN), IEEE

2017 Constraining type II error: building intentionally biased classifiers
R. Cruz, K. Fernandes, J. Costa, J. Cardoso
International Work-conference on Artificial Neural Networks (IWANN),
Springer

2017 Fine-to-coarse ranking in ordinal and imbalanced domains: an application to
liver transplantation
M. Pérez-Ortiz, K. Fernandes, R. Cruz, J. Cardoso
International Work-conference on Artificial Neural Networks (IWANN),
Springer

2017 Combining ranking with traditional methods for ordinal class imbalance
R. Cruz, K. Fernandes, J. Costa, M. Pérez-Ortiz, J. Cardoso
International Work-conference on Artificial Neural Networks (IWANN),
Springer

2017 Ordinal class imbalance with ranking
R. Cruz, K. Fernandes, J. Costa, M. Pérez-Ortiz, J. Cardoso
Iberian conference on pattern recognition and image analysis (Ibpria),
Springer

2016 Tackling class imbalance with ranking
R. Cruz, K. Fernandes, J. Costa, J. Cardoso
International Joint Conference on Neural Networks (IJCNN), IEEE