PEDRO F DA COSTA

PhD Researcher - Machine Learning applied to Neurosciences

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EDUCATION

Birkbeck College & King's College London

PhD Researcher

April 2019 – April 2022 London, UK

Imperial College London

C3NL

Jan 2018 – Sep 2018 London, UK

MSc Thesis - Visiting Student

Mark = 18/20

Instituto Superior Técnico

MSc in Biomedical Engineering

Oct 2016 – Sep 2018 Lisboa, PT

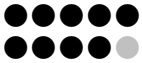
Mark = 18/20 (Hons)

ACHIEVEMENTS

- Designed and **delivered lectures on Machine Learning** as part of MSc Neurosciences @ Kings College London
- Created, debugged, released and maintained a **scikit-learn compliant version of the RVM algorithm**.
- PAC2019 Predicting brain age competition- **Top 10 out of 79 teams**
- King's College Neuroimaging Hackathon (2019) - **1st Place**
- Kaggle APTOS 2019 Blindness detection - Top 30%
- Roller Hockey National University League - 1st Place (2015)
- Captained the Portuguese Floorball University Team in the World University Championship (2016)

SKILLS

Python, Sklearn, Keras, Tensorflow, C#
C++, MATLAB, Unity



HONORS & AWARDS

- Awarded **EU Marie Sklodowska-Curie Actions (MSCA ITN) Grant** - Horizon 2020
- Awarded Merit Certificate at IST for the academic years 16/17 and 17/18
- Awarded 2 Erasmus travel grant (2016 - Istanbul, 2018 - London)

PUBLICATIONS

- Pedro F. da Costa, Rita Nunes, Robert Leech (2018) *Application of Artificial Neural Networks for modelling cognitive dimensions.* Instituto Superior Técnico
- Pedro F. da Costa, Sebastian Popescu, Robert Leech, Romy Lorenz (2019) *Elucidating Cognitive Processes Using LSTM.* CCN19
- Pedro F da Costa, Amschel de Rothschild, Oliver Smart, Amy Goodwin, Amy Levering-ton, M. Chien, Julia Koziel, Amy Pilkington, Emily Jones, Robert Leech, Eva Loth (2020) *Pip's world: An adaptive tablet battery to assess preschoolers with Autism Spectrum Disorder across five behavioural domains.* INSAR 2020 - Submitted
- Lea Baecker, Pedro F. da Costa, Jessica Daf-flon, Rafael Garcia Dias, Sandra Vieira, Cristina Scarpazza, Vince D. Calhoun, João R. Sato, An-drea Mechelli, Walter H. L. Pinaya (2020), *Com-parison of machine learning models for brain age prediction from region- and voxel-based morpho-metric data in UK Biobank.* - In preparation
- Anna Gui, Pedro Costa, Elena Throm, Char-lotte Tye, Mayada Elsabbagh, Greg Pasco, Tony Charman, Mark H. Johnson, Robert Leech, Emily J. H. Jones (2020) *Neuroadaptive opti-mization to study how neural signatures of at-tention to faces in infants relate to later autism.* ICIS2020 - Submitted

PROJECTS

Sklearn - RVM

- Created and maintain an open-source Rele-vance Vector Machine (RVM) implementation in python, fully compatible with scikit-learn, which currently does not provide the algo-rithm.

ModelZoo

- Developed a space of machine learning algo-rithms that, by means of Bayesian Optimiza-tion, finds the optimal models to solve any dataset in a small number of iterations.

GANxEEG

- Using styleGAN, created a continuous space of artificially generated faces. By collecting and processing EEG data in real-time, we are able to navigate the space to find the stimulus (face) that elicits the bigger signal.

Cognitive Tablet Battery

- Developed a tablet battery of 15 cognitive tasks aimed at phenotyping children with ASD.