

Simao Eduardo

PhD student in **Machine Learning, U. of Edinburgh**. Current research on **Robust Machine Learning, Deep Generative Models, Relational Learning, Bayesian Inference**. Has worked on Optimization, Image & Signal Processing.

3.25 Informatics Forum
University of Edinburgh
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EXPERIENCE

PhD Student – University of Edinburgh, UK

Oct 2016 - PRESENT

PhD student at the School of Informatics, Machine Learning: Generative Modelling under Noise. **Supervisors:** Charles Sutton (main), Chris Williams (secondary).

Tutor / Marker – University of Edinburgh, UK

Oct 2016 - 2018

Postgraduate-level courses, tutorials and labs. Machine Learning and Pattern Recognition, Machine Learning Practical (Deep Learning Course), Extreme Computing (MapReduce, HDFS, etc).

Research Assistant Fellow – Instituto de Telecomunicações @ Instituto Superior Tecnico (IST), Lisbon PT

Dec 2014 - Aug 2015

Researched Proximal Algorithms (Optimization) for Inverse Problems in Imaging (PACConvex): Image Segmentation and Super-Resolution. **References:** Mario A. T. Figueiredo (IST), JM Bioucas-Dias (IST).

Junior GNSS Software Engineer, R&D – GMV, Lisbon PT

May 2013 - May 2014

Developed GNSS simulator for assessing robust carrier phase techniques (Signal Processing), for the European Space Agency. Integrated novel methods, analysis and reporting. **Reference:** Teresa Ferreira.

Publications / Reports

Robust Variational Autoencoders for Outlier Detection in Mixed-Type Data – AISTATS 2020

v1: 2019, v2: 2020

Simao Eduardo, Alfredo Nazabal, Chris Williams, Charles Sutton
<https://arxiv.org/pdf/1907.06671.pdf>

Data Cleaning using Probabilistic Models of Integrity Constraints – NIPS 2016 Workshop on Artificial Intelligence for Data Science (AI4DataSci 2016)

2016

Simao Eduardo, Charles Sutton

SKILLS / KNOWLEDGE

Programming: Python, Java, Matlab, C, SQL, Julia

Framework: Pytorch, Scipy, Numpy, git, Pandas, SQLite, Pyro, Tensorflow (basic)

Maths: Machine Learning, Optimization, Signal Processing, Control, Time-series, Probabilistic Inference, Variational Inference, Deep Learning, Unsupervised Learning, Information Theory, NLP (basic)

AWARDS

Amazon Research Award, GPUs and Mentorship, 2018–2019

EPSRC CDT Scholarship, funding 2015–2019, EP/L106427/1

Research Assistant Fellowship, PACConvex project, 2014–2015

Erasmus Scholarship, MSc Thesis at Aalborg University, 2011–2012

http://workshops.inf.ed.ac.uk/nips2016-ai4datasci/papers/NIPS2016-AI4DataSci_paper_12.pdf

Proximal Algorithms in Inverse Imaging Problems: First and Second-Order Splitting – Technical Report

2015

Simao Eduardo, Mario Figueiredo, JM Bioucas-Dias

https://sfme.github.io/TechReport_Proximal_Algos_2015_IST.pdf

Cell load balancing in heterogeneous scenarios: A 3GPP LTE case study – Wireless VITAE 2013, IEEEExplore

2013

Simao Eduardo, Antonio Rodrigues, Albena Mihovska, Neeli R. Prasad

<https://ieeexplore.ieee.org/document/6617063?arnumber=6617063>

EDUCATION

PhD Informatics (Ongoing), University of Edinburgh

Oct 2016 - PRESENT

Thesis: ‘Bayesian Inference under Noise: Applications in Data Science’,

Supervisors: Charles Sutton, Chris Williams

MSc(R) Data Science (Distinction), University of Edinburgh

Sept 2015 - Sept 2016

Thesis: ‘Data Cleaning in Tabular Datasets: Error Detection and Robust Rule Estimation’, Supervisors: Charles Sutton

MSc (A- top 7%) Electrical and Computer Engineering, Instituto Superior Tecnico, University of Lisbon

Sept 2010 - Jan 2013

MS Thesis: ‘Cell load balancing in heterogeneous scenarios: A 3GPP LTE case study’, Supervisors: Antonio Rodrigues (IST), Albena Mihovska

BSc (A- top 6%) Electrical and Computer Engineering, Instituto Superior Tecnico, University of Lisbon

Sept 2007 - Jan 2010

REFERENCES

Dr Charles Sutton – csutton@inf.ed.ac.uk

Prof. Chris Williams – ckiw@inf.ed.ac.uk

Prof. Mario A. T. Figueiredo – mtf@lx.it.pt

Teresa Ferreira – teresa.ferreira@gmv.com