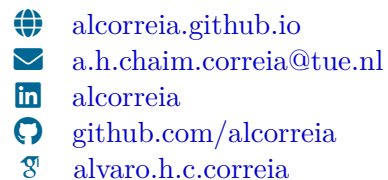


Alvaro H.C. Correia

Final-year PhD student in machine learning



EDUCATION

Eindhoven University of Technology (TU/e) PhD in Computer Science, Concentration in Machine Learning	Eindhoven, the Netherlands Nov. 2018–Current
ENSTA Paris - Institut Polytechnique de Paris MSc in Robotics and Embedded Systems	Paris, France 2014–2017
Université Paris-Saclay MSc in Machine Learning	Paris, France 2016–2017
Universidade de São Paulo BSc in Mechatronics Engineering	São Paulo, Brazil 2011–2017

EXPERIENCE

Eindhoven University of Technology (TU/e) Research Assistant Advisers: Cassio de Campos and Robert Peharz	Eindhoven, the Netherlands Nov. 2018–Current
<ul style="list-style-type: none">- Worked on (deep) generative models at large, including tractable probabilistic models (publication), Bayesian networks (publication), variational autoencoders and normalising flows.- Planned and executed research to improve our theoretical understanding of generative models as well as to extend their applications in other fields, namely computer vision, federated learning and reinforcement learning.	
Qualcomm Research Research Intern Advisers: Daniel Worrall and Roberto Bondesan	Amsterdam, the Netherlands Summer 2021
<ul style="list-style-type: none">- Worked on graph neural networks and equivariant architectures for combinatorial optimisation problems.- Proposed an improved, learnable version of a popular meta-heuristic (publication).	
Itaú Unibanco Data Scientist	São Paulo, Brazil 2018
<ul style="list-style-type: none">- Worked on unsupervised deep learning methods, leveraging unlabelled data to improve credit scoring results.- Tutored four analysts in data science and machine learning.	
Decision Making Lab Universidade de São Paulo Research Assistant Adviser: Fabio Gagliardi Cozman	São Paulo, Brazil 2017-2018
<ul style="list-style-type: none">- Developed first transformer architecture for question answering (publication).- Worked on the interpretation of embedding models of knowledge bases (publication).	
Accenture Labs Research Intern Advisers: Freddy Lecue and Alexander Allauzen	Dublin, Ireland Summer 2017
<ul style="list-style-type: none">- Developed a deep probabilistic model to classify projects according to their financial risk, including a human-in-the-loop feature selection method to integrate feedback from business experts (publication).- Developed a patented monitoring system based on reinforcement learning (patent).	
Rolls-Royce Systems Engineering Intern	Birmingham, UK 2015–2016
<ul style="list-style-type: none">- Worked on the design of a modular and easy to extend operating system for aircraft engines.- Focused on software-hardware integration, collaborating closely with hardware, software and verification teams.	

SELECTED PUBLICATIONS

- [1] A. H. C. Correia, D. E. Worrall, and R. Bondesan, “Neural simulated annealing”, *arXiv preprint arXiv:2203.02201*, 2022.
- [2] A. H. C. Correia, J. Cussens, and C. de Campos, “On pruning for score-based bayesian network structure learning”, in *International Conference on Artificial Intelligence and Statistics*, 2020, pp. 2709–2718.
- [3] A. H. C. Correia, R. Peharz, and C. P. de Campos, “Joints in random forests”, *Advances in Neural Information Processing Systems*, vol. 33, 2020.
- [4] A. H. C. Correia and C. de Campos, “Towards scalable and robust sum-product networks”, in *International Conference on Scalable Uncertainty Management*, Springer, 2019, pp. 409–422.
- [5] A. H. C. Correia and F. Lecue, “Human-in-the-loop feature selection”, in *Proceedings of the AAAI Conference on Artificial Intelligence*, vol. 33, 2019, pp. 2438–2445.
- [6] A. H. C. Correia, J. L. Silva, T. d. C. Martins, and F. G. Cozman, “A fully attention-based information retriever”, in *2018 International Joint Conference on Neural Networks (IJCNN)*, IEEE, 2018, pp. 2799–2806.
- [7] A. C. Gusmao, A. H. C. Correia, G. De Bona, and F. G. Cozman, “Interpreting embedding models of knowledge bases: A pedagogical approach”, in *ICML Workshop on Human Interpretability in Machine Learning*, 2018.

SCHOLARSHIPS AND AWARDS

Top Reviewer UAI 2021	2021
Selected for MLSS-Tübingen 2020 Acceptance rate of 14%	2020
Best BSc Thesis Department of Mechatronics Engineering at Universidade de São Paulo	2017
Nominated for best research project ENSTA Paris	2015
Brafitec Scholarship Coordination for the Improvement of Higher Education Personnel (CAPES)	2014–2017
Undergraduate Researcher Scholarship São Paulo Research Foundation (FAPESP)	2013

SKILLS

Python, Pytorch, Numpy	● ● ● ● ●
Tensorflow, Jax	● ● ● ● ●
C++, MATLAB, L^AT_EX, Numba	● ● ● ● ●

LANGUAGES

Portuguese Native language
English Fluent - TOEFL 118/120 (2017)
French Fluent - TCF C2 (2015)
Spanish Advanced - DELE C2 (2009)

TEACHING AND SERVICE

Reviewer AAAI 2021, AISTATS 2020-2022, ICLR 2022, ICML 2020-2021, NeurIPS 2021, UAI 2021	2019-2021
Master Students TU/e Supervised master students doing their theses in generative models and reinforcement learning. Guðmundur Pálsson, Stefan Jonsson, Thijs Meeuwisse, Joost de Boer	2019-2021
Bachelor Students TU/e Supervised bachelor students doing their theses in generative models. Mennolt van Alten, Yaron Heerkens, Tim van Engeland, Niels Schelleman, Leon Willems, Anastas Kermedchiev	2019-2021
Teaching Assistant TU/e Introductory Deep Learning lectures for BSc and PDeng students.	2019-2020