Gonçalo Mordido

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Work

2022 – Now | **Mila - Quebec AI Institute & Polytechnique Montreal** (Canada)
Postdoctoral Fellow
- Efficient processing of deep neural networks by leveraging algorithm-hardware co-design.

2020 | **NVIDIA** (Germany)
Research Intern (4 months)
- Compression of depth-wise separable convolutions in deep neural networks.

2018 – 2019 | **NVIDIA** (Germany)
Research Intern (6 months)
- Compression of deep neural networks using Monte Carlo methods.

2016 – 2017 | **NOVA University Lisbon** (Portugal)
Research Assistant (1 year)
- Automated discovery and quality assessment of user-generated content with machine learning.

Education

2017 – 2021 | **Hasso Plattner Institute** (Germany)
Ph.D. in Artificial Intelligence
- Grade: Magna cum laude
- Thesis: Diversification, compression, and evaluation methods for generative adversarial networks.

2015 – 2017 | **NOVA University Lisbon** (Portugal)
M.Sc. in Computer Science Engineering
- Grade: A
- Thesis: Automated organization and quality analysis of user-generated audio content.

2012 – 2015 | **NOVA University Lisbon** (Portugal)
B.Sc. in Computer Science Engineering
- Grade: A

Awards & Recognition

2021 | **Honors Ph.D. graduation**. Hasso Plattner Institute

2020 | **Recognition award** for "exceptional and outstanding contributions". NVIDIA

2015 | **Best bachelor's project**. NOVA University Lisbon

2015 | **1st place hackathon**. NOVA University Lisbon

Patents

2020 | **Incorporating a ternary matrix into a neural network**.
A. Keller, G. Mordido, M. Van keirsbilck. *Filed.*

2019 | **Representing a neural network utilizing paths within the network to improve a performance of the neural network**.
A. Keller, G. Mordido, N. Gamboa, M. Van keirsbilck. *US Patent App. 16/352,596*

Publications

2022 **Improving meta-learning generalization with activation-based early-stopping.**
S. Guiroy, C. Pal, G. Mordido, S. Chandar. *Under review*
MemSE: Fast MSE prediction for noisy memristor-based DNN accelerators.
J. Kern, S. Henwood, G. Mordido, E. Dupraz, A. Aissa-El-Bye, Y. Savaria, F. Leduc-Primeau. *Under review*
Tiny CNN for seizure prediction in wearable biomedical devices.
Y. Zhang, Y. Savaria, S. Zhao, G. Mordido, M. Sawan, F. Leduc-Primeau. *Under review*

2021 **Compressing 1D time-channel separable convolutions using sparse random ternary matrices.**
G. Mordido, M. Keirsbilck, A. Keller. *INTERSPEECH 2021*
Evaluating post-training compression in GANs using locality-sensitive hashing.
G. Mordido, H. Yang, C. Meinel. *Preprint*
Assessing image and text generation with topological analysis and fuzzy logic.
G. Mordido*, J. Niedermeier*, C. Meinel. *WACV 2021*

2020 **Mark-Evaluate: Assessing language generation using population estimation methods**.
G. Mordido, C. Meinel. *COLING 2020*
Best student forcing: A simple training mechanism in adversarial language generation.
J. Sauder*, T. Hu*, X. Che, G. Mordido, H. Yang and C. Meinel. *LREC 2020*
Monte Carlo gradient quantization.
G. Mordido, M. Keirsbilck, A. Keller. *CVPR 2020 EDLCV workshop*
Improving the evaluation of generative models with fuzzy logic.
J. Niedermeier*, G. Mordido* and C. Meinel. *AAAI 2020 Meta-Eval workshop*
microbatchGAN: Stimulating diversity with multi-adversarial discrimination.
G. Mordido, H. Yang, and C. Meinel.*WACV 2020*

2019 **Instant quantization of neural networks using Monte Carlo methods.**
G. Mordido*, M. Keirsbilck*, A. Keller. *NeurIPS 2019 EMC2 workshop*

2018 **Pseudo-ground-truth for adversarial text generation using reinforcement learning**.
J. Sauder, X. Che, G. Mordido, H. Yang and C. Meinel. *NeurIPS 2018 Deep RL workshop*
Dropout-GAN: Learning from a dynamic ensemble of discriminators.
G. Mordido, H. Yang, and C. Meinel. *KDD 2018 DL'Day*

2017 **Automatic organisation, segmentation, and filtering of user-generated audio content**.
G. Mordido, J. Magalhaes, and S. Cavaco. *MMSP 2017*
Automatic organisation and quality analysis of user-generated content with audio fingerprinting.
G. Mordido, J. Magalhaes, and S. Cavaco. *EUSIPCO 2017*

Mentoring

2022 – Now | **Pranshu Malviya**. *Ph.D. student*, Mila - Quebec AI Institute & Polytechnique Montreal
Abdelrahman Zayed. *Ph.D. student*, Mila - Quebec AI Institute, Polytechnique Montreal & Microsoft
Mojtaba Faramarzi. Ph.D. student, Mila - Quebec AI Institute & University of Montreal
Simon Guiroy. *Ph.D. student*, Mila - Quebec AI Institute & University of Montreal
Arjun Sudhakar. Master's student, Mila - Quebec AI Institute & University of Montreal
Jonathan Kern. *Ph.D. student*, Polytechnique Montreal
Sébastien Henwood. *Ph.D. student*, Polytechnique Montreal
Yang Zhang. *Ph.D. student*, Polytechnique Montreal
Batoul Sayegh. *Ph.D. student*, Polytechnique Montreal

2021 | **Philipp Hildebrandt**. *Master's student*, Hasso Plattner Institute

2020 | **Cornelius Hagmeister**. *Master's student*, Hasso Plattner Institute

2019 | **Julian Niedermeier**. *Master's student*, Hasso Plattner Institute

2018 | **Jonathan Sauder**. *Intern*, Hasso Plattner Institute

Presentations

2021 | **Oral presentation**. *INTERSPEECH 2021*
Invited talk. *MIT*
Oral presentation. *GTC 2021*
Spotlight presentation. *WACV 2021*

2020 | **Oral presentation**. *COLING 2020*
Spotlight presentation. *CVPR 2020 EDLCV workshop*
Spotlight and poster presentation. *WACV 2020*
Oral presentation. *AAAI 2020 Meta-Eval workshop*

2019 | **Oral and poster presentation**. *NeurIPS 2019 EMC2 workshop*

2018 | **Poster presentation** at *KDD 2018 DL'Day*

2017 | **Invited talk**. *SAP TechEd 2017*
Poster presentation. *EUSIPCO 2017*

Academic service

2022 **Organizing committee**. *Hardware-Aware Efficient Training* (HAET) workshop at ICML 2022 with François Leduc-Primeau, Ghouthi Hacene, Vincent Gripon, Vahid Nia, Julie Grollier, and Yoshua Bengio.
Organizing committee. *1st Conference on Lifelong Learning Agents* (CoLLAs 2022) with Sarath Chandar, Razvan Pascanu, Doina Precup, and others.

2021 **Reviewer**. *EMNLP 2021*
External reviewer. *Knowledge-Based Systems*
External reviewer. *CVPR 2021*
Reviewer. *EACL 2021*

2020 **Reviewer**. *ACL 2020*
Reviewer. *EMNLP 2020*
Reviewer. *WACV 2020*

2019 **External reviewer**. *Neural Computing and Applications*
Reviewer. *ICIS 2019*

2018 **External reviewer**. *IEEE Access*

2017 **External reviewer**. *IEEE Big Data 2017*

Teaching

2022 **Neural networks: Architectures and applications** (graduate course, Polytechnique Montreal)
Guest Lecturer & Assignment Editor

2021 **Clean-IT: Towards sustainable digital technologies** (MOOC, openHPI)
Guest Lecturer

2020 **Practical applications of deep learning** (graduate course, Hasso Plattner Institute)
Teaching Assistant

2019 **Machine intelligence with deep learning** (graduate course, Hasso Plattner Institute)
Teaching Assistant

2018 **Competitive problem solving with deep learning** (graduate course, Hasso Plattner Institute)
Teaching Assistant

2017 **Machine intelligence with deep learning** (graduate course, Hasso Plattner Institute)
Teaching Assistant
Natural language generation using GANs (graduate project, Hasso Plattner Institute)
Teaching Assistant