Gonçalo Mordido

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Experience

2022 – Now **Mila - Quebec AI Institute & Polytechnique Montreal** (Canada)
Postdoctoral Fellow
- Hardware-efficient deep neural networks.

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

2022 **Incorporating a ternary matrix into a neural network**.
A. Keller, G. Mordido, M. Van keirsbilck. *US Patent App. 17/356,279*

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

Deep learning on a healthy data diet: Finding important examples for fairness and performance.
A. Zayed, P. Parthasarathi, <u>G. Mordido</u>, H. Palangi, S. Shabanian, S. Chandar. *Under review*

Sharpness-aware training for accurate inference on noisy DNN accelerators.
<u>G. Mordido</u>, S. Chandar, F. Leduc-Primeau. *CoLLAs 2022 workshop*

Improving meta-learning generalization with activation-based early-stopping.
S. Guiroy, C. Pal, <u>G. Mordido</u>, S. Chandar. *CoLLAs 2022*

MemSE: Fast MSE prediction for noisy memristor-based DNN accelerators.
J. Kern, S. Henwood, <u>G. Mordido</u>, E. Dupraz, A. Aissa-El-Bye, Y. Savaria, F. Leduc-Primeau. *AICAS 2022*

Tiny CNN for seizure prediction in wearable biomedical devices.
Y. Zhang, Y. Savaria, S. Zhao, <u>G. Mordido</u>, M. Sawan, F. Leduc-Primeau. *EMBC 2022*

2021

Compressing 1D time-channel separable convolutions using sparse random ternary matrices.
<u>G. Mordido</u>, M. Keirsbilck, A. Keller. *INTERSPEECH 2021*

Evaluating post-training compression in GANs using locality-sensitive hashing.
<u>G. Mordido</u>, H. Yang, C. Meinel. *Preprint*

Assessing image and text generation with topological analysis and fuzzy logic.
<u>G. Mordido</u>*, J. Niedermeier*, C. Meinel. *WACV 2021*

2020

Mark-Evaluate: Assessing language generation using population estimation methods.
<u>G. Mordido</u>, C. Meinel. *COLING 2020*

Best student forcing: A simple training mechanism in adversarial language generation.
J. Sauder*, T. Hu*, X. Che, <u>G. Mordido</u>, H. Yang and C. Meinel. *LREC 2020*

Monte Carlo gradient quantization.
<u>G. Mordido</u>, M. Keirsbilck, A. Keller. *CVPR 2020 EDLCV workshop*

Improving the evaluation of generative models with fuzzy logic.
J. Niedermeier*, <u>G. Mordido</u>* and C. Meinel. *AAAI 2020 Meta-Eval workshop*

microbatchGAN: Stimulating diversity with multi-adversarial discrimination.
<u>G. Mordido</u>, H. Yang, and C. Meinel. *WACV 2020*

2019

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

2018

Pseudo-ground-truth for adversarial text generation using reinforcement learning.
J. Sauder, X. Che, <u>G. Mordido</u>, H. Yang and C. Meinel. *NeurIPS 2018 Deep RL workshop*

Dropout-GAN: Learning from a dynamic ensemble of discriminators.
<u>G. Mordido</u>, H. Yang, and C. Meinel. *KDD 2018 DL'Day*

2017

Automatic organisation, segmentation, and filtering of user-generated audio content.
<u>G. Mordido</u>, J. Magalhaes, and S. Cavaco. *MMSP 2017*

Automatic organisation and quality analysis of user-generated content with audio fingerprinting.
<u>G. Mordido</u>, J. Magalhaes, and S. Cavaco. *EUSIPCO 2017*

Mentoring

2022 – Now

Students at Mila - Quebec AI Institute. *Simon Guiroy* (Ph.D.), *Abdelrahman Zayed* (Ph.D.), *Pranshu Malviya* (Ph.D.), *Selim Gilon* (Master's), *Kaushik Moudgalya* (Master's), *Charmi Chokshi* (Master's)
Students at Polytechnique Montreal. *Sébastien Henwood* (Ph.D.), *Jonathan Kern* (Ph.D.), *Yang Zhang* (Ph.D.), *Batoul Sayegh* (Ph.D.), *Kamran Chitsaz* (Master's)

2018 – 2021

Students at Hasso Plattner Institute. *Philipp Hildebrandt* (Master's, 2021), Cornelius Hagmeister (Master's, 2020), Julian Niedermeier (Master's, 2019), Jonathan Sauder (intern, 2018)

Presentations

2022   **Paper presentation**. *CoLLAs 2022 workshop*
Invited talk: Sharpness-aware training for accurate inference on noisy DNN accelerators. *CRL Symposium*

2021   **Invited talk: Compression methods for neural networks**. *MIT*
Invited talk: 1x1-Convolutions by random ternary matrices. *GTC 2021*
Paper presentations. *INTERSPEECH 2021, WACV 2021*

2020   **Paper presentations**. *COLING 2020, CVPR 2020 workshop, WACV 2020, AAAI 2020 workshop*

2019   **Paper presentation**. *NeurIPS 2019 workshop*

2018   **Paper presentation**. *KDD 2018 workshop*

2017   **Invited talk: Dialogue generation with generative adversarial networks**. *SAP TechEd 2017*
Paper presentation. *EUSIPCO 2017*

Academic service

2022   **Co-organizer**. *Hardware-Aware Efficient Training* (HAET) workshop at ICML 2022, *1st Conference on Lifelong Learning Agents* (CoLLAs 2022), *Chandar Research Lab* (CRL) 2022 symposium at Mila - Quebec AI Institute

2017 – 2021   **Reviewer**. *EMNLP 2021, EACL 2021, CVPR 2021, Knowledge-Based Systems (2021), ACL 2020, EMNLP 2020, WACV 2020, ICIS 2019, Neural Computing and Applications (2019), IEEE Access (2018), IEEE Big Data 2017*

Teaching

2022   **Machine Learning** (graduate course, INF8245E, Polytechnique Montreal)
Teaching Assistant
Neural networks: Architectures and applications (graduate course, ELE6307, 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