Maxime Wabartha

maximewabartha@gmail.com, +1 (438) 824-0908
https://maxwab.github.io

RESEARCH INTEREST

I am interested in designing representations for reinforcement learning that can lead to stable and scalable algorithms when used with (non-linear) function approximation.

EDUCATION

PhD in Computer Science, McGill University (Canada), 2019 - to date
Reinforcement learning, advised by Prof. Joelle Pineau

MSc in Applied Mathematics, Université Paris-Saclay (France), 2017-2018
Topic: *Learning diverse neural networks for improved exploration in deep reinforcement learning*

BS, MEng, École Centrale de Lille (France), 2013-2017

EXPERIENCE

Research intern, McGill University (Canada) May 2018 - Dec. 2018
Topic: *Exploration in deep reinforcement learning [2]*

Research intern, Polytechnique Montréal (Canada) May 2017 - Sep. 2017
Topic: *Semantic segmentation of the spinal cord [1]*

Business intelligence analyst, Shopwings (Australia) June 2016 - Sep. 2016
Startup. Developing data analysis tools, project manager.

Junior financial auditor, Ernst&Young (France) Sep 2015 - Mar. 2016
Financial audit of leading industrial french companies.

Internal vice-president, Centrale Lille Projets (France) Apr. 2014 - Mar. 2015
Consulting company (100k€ turn-over). HR, project manager for 5 projects (∼15k€).

References available upon request

TEACHING

Teaching assistant, McGill University (Canada) Jan. 2020 - Apr. 2020
Artificial Intelligence (COMP424, 90h). Office hours, tutorials, invigilating, grading.

TALKS

5-minute spotlight-like talk [4], IJCAI (online) Jan. 2021

Invited talk [3], NeuroPoly lab (Canada), Jun. 2019
Using diverse ensembles for out-of-distribution detection.

AWARDS

FRQNT scholarship, doctoral program 2021-2023
Fond de Recherche du Québec - Nature et Technologies.
Competitive provincial scholarship, 25% acceptance.

SERVICE

Reviewer for the Reproducibility Challenge (2019-2020), Montreal AI Symposium (2020).

PUBLICATIONS

[1] Zaimi, A.*, **Wabartha, M.***, Herman, V., Antonsanti, P. L., Perone, C. S., & Cohen-Adad, J. (2018). *AxonDeepSeg: automatic axon and myelin segmentation from microscopy data using convolutional neural networks.* Nature Scientific reports, 8(1), 1-11.

[2] **Wabartha, M.**, Durand, A., François-Lavet, V., & Pineau, J. (2018). *Sampling diverse neural networks for exploration in reinforcement learning.* NeurIPS Workshop on Bayesian Deep Learning.

[3] **Wabartha, M.**, Durand, A., François-Lavet, V., & Pineau, J. (2019). *Handling Black Swan Events in Deep Learning with Diversely Extrapolated Neural Networks.* NeurIPS Workshop on Safety and Robustness in Decision Making.

[4] **Wabartha, M.**, Durand, A., Francois-Lavet, V., & Pineau, J. (2020). *Handling Black Swan Events in Deep Learning with Diversely Extrapolated Neural Networks.* International Joint Conference on Artificial Intelligence, 2140-2147.

[5] Mangeat, G., Ouellette, R., **Wabartha, M.**, De Leener, B., Plattén, M., Danylaité Karrenbauer, V., ... & Granberg, T. (2020). *Machine Learning and Multiparametric Brain MRI to Differentiate Hereditary Diffuse Leukodystrophy with Spheroids from Multiple Sclerosis.* Journal of Neuroimaging.

* denotes an equal contribution.

LANGUAGES French (native), English (fluent), Italian (conversational), German (occasional).

EXTRA-CURRICULAR Practice of competitive badminton, 10 years
Misc. interests: Cinema, History, Technology.