Maxime Wabartha

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EDUCATION	PhD in Computer Science, McGill University (Canada),	2019 - to date	
	Interpretability and reinforcement learning, advised by Prof. Joelle Pineau		
	\mathbf{MSc} in Applied Mathematics, Université Paris-Saclay (France),	2017 - 2018	
	Master "Mathématiques, Vision, Apprentissage" (MVA). Topic: Learn	ning	
	diverse neural networks for improved exploration in deep reinforcement learning		
	MEng , École Centrale de Lille (France),	2010 - 2017	

EXPERIENCE	Visiting researcher , FAIR, Meta (Canada), Topic: Interpretability and deep reinforcement learning [1]	Sep. 2022 - Sep. 2023
	Research intern , McGill University (Canada), Topic: Exploration in deep reinforcement learning [5]	May 2018 - Dec. 2018
	Research intern , Polytechnique Montréal (Canada), Topic: Semantic segmentation of the spinal cord [6]	May 2017 - Sep. 2017
	Business intelligence analyst , Shopwings (Australia), Startup. Developing data analysis tools, project manager.	Jun. 2016 - Sep. 2016
	Junior financial auditor , Ernst&Young (France) <i>Financial audit of industrial french companies.</i>	Sep 2015 - Mar. 2016
	Internal vice-president , Centrale Lille Projets (France). Student-led consulting company ($100k \in turn$ -over). In charge of HR, project manager for 5 projects ($\sim 15k \in$).	Apr. 2014 - Mar. 2015
	References available upon request	

PUBLICATIONS [1] Wabartha, M. & Pineau, J. (2024). Piecewise Linear Parametrization of Policies for Interpretable Deep Reinforcement Learning. (To appear in) International Conference on Learning Representations.

- [2] 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.
- [3] 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.
- [4] 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.
- [5] 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.
- [6] Zaimi, A.*, Wabartha, M.*, Herman, V., Antonsanti, P. L., Perone, C. S., & Cohen-Adad, J. (2018). AxonDeepSeg: automatic axon and myelin segmentation [...] using convolutional neural networks. Nature Scientific reports, 8(1), 1-11.

^{*} denotes an equal contribution.

SKILLS	Programming: Python, Pytorch, TensorFlow, R			
	Software/OS: Git, Unix, Slurm, LATEX, Matlab, Singularity			
	Math: experience with Markov chains, calculus, probability	, linear algebra		
AWARDS	FRQNT scholarship, doctoral program	2021-2024		
	Fond de Recherche du Québec - Nature et Technologies.			
	Competitive provincial scholarship, 25% acceptance.			
SELECTED TALKS	Improving the transparency of predictive models in the era of neural net- works			
	• PhD proposal exam, McGill	Sep. 2023		
	Piecewise-linear parametrization of policies: towards interpretable deep re-			
	inforcement learning			
	• RL Sofa reading group, Mila	Oct. 2023		
	• Research seminar, FAIR (Meta Montreal)	Sep. 2023		
	• Invited talk, EQUAL lab	Aug. 2023		
	Handling Black Swan Events in Deep Learning with Diversely Extrapolated			
	Neural Networks [2]			
	• IJCAI '20, online	Jan. 2021		
	Using diverse ensembles for out-of-distribution detection [4]			
	• Invited talk, NeuroPoly lab (Canada)	Jun. 2019		
TEACHING	Teaching assistant , McGill University (Canada) Artificial Intelligence (COMP424, 90h). Office hours, tutorials, invigilating, grading.	Jan. 2020 - Apr. 2020		
SERVICE	Reviewer: Reproducibility Challenge ('19, '20, '21 (Outstanding reviewer), '22), Mon- treal AI Symposium ('20), ECML ('22).			
	Volunteer helping with the organization of the RLDM conference in Montreal ('20).			
LANGUAGES	French (native), English (fluent), Italian (conversational), German (conversational).			
EXTRA- CURRICULAR	Practice of competitive badminton, 10 years			