Johan Ferret

Personal Data

Address:	120 rue Legendre, 75017 Paris, France
Contact:	johan.ferret1@gmail.com (+33686066996)
Website:	ferretj.github.io
Github:	github.com/ferretj
Citations:	Google Scholar, Semantic Scholar

Work Experience

Nov 18 - Jun 22 — PhD Candidate at Google Brain, Paris & Inria Scool, Lille

PhD on (Deep) Reinforcement Learning with a focus on credit assignment and interpretability. Advised by O. Pietquin and P. Preux. First author on 5 published papers in top ML conferences (NeurIPS, ICLR, AAMAS, IJCAI), 1 workshop paper (NeurIPS, oral).

Nov 16 - Jun 18 — Research Engineer at Dreamquark, Paris

R&D on neural networks interpretability, semi-supervised learning, question answering. Implemented production-ready code for our Deep Learning autoML software and a total revamp of its predictive engine. Completed custom clients projects (*NLP, fraud detection*).

Apr 16 - Oct 16 — Data Science Internship at Dreamquark, Paris

Built diabetic retinopathy screening models using convolutional neural networks, with a focus on interpretability and reliability. Use of advanced techniques (*custom loss, data augmentation, oversampling, guided backpropagation*). State-of-the-art AUC on Kaggle's Diabetic Retinopathy Detection data. Gained expertise about Deep Learning models.

Oct 15 - Apr 16 — Software Engineer at charp.co, Paris

Developed web scraping tools to gather web presence features about leads to improve web marketing campaigns.

Education

2015 - 2016 — M.Sc in Machine Learning, **Ecole Polytechnique**, Paris

Text and Graph Mining, Neural Networks, Kernel Methods, Sampling Theory, Probabilistic Graphical Models, Large Dimension Statistics

2013 - 2016 — M.Sc in Applied Mathematics and Computer Science, **Telecom Paris**, Paris

Algorithmics, Data Mining, Optimization, Databases, Statistical Learning, Probability

Languages

French:	Native
English:	Fluent
Spanish:	Advanced
Mandarin:	Notions

Computer Skills

Expert:	Python
Advanced:	unix, Git, Shell, sql, LaTeX
Notions:	c, Java, Matlab, Prolog

Libs: numpy, jax, tensorflow, dopamine, acme, matplotlib, keras, pandas, scikit-learn, jupyter, theano, lasagne, pytorch, numba, openCV, pillow, networkx, spacy, flask

Publications

Feb 2022 *Lazy-MDPs: Towards Interpretable RL by Learning When to Act*
J. Ferret*, A. Jacq*, O. Pietquin & M. Geist, AAMAS 2022

Jun 2021 *There is no Turning Back: A Self-Supervised Approach for Reversibility-Aware RL*
J. Ferret*, N. Grinsztajn*, O. Pietquin, P. Preux & M. Geist, NeurIPS 2021

Feb 2021 *Adversarially Guided Actor-Critic*
J. Ferret*, Y. Flet-Berliac*, O. Pietquin, P. Preux & M. Geist, ICLR 2021

Dec 2020 *Self-Imitation Advantage Learning*
J. Ferret, O. Pietquin & M. Geist, AAMAS 2021

Jul 2019 *Self-Attentional Credit Assignment for Transfer in Reinforcement Learning*
J. Ferret, R. Marinier, M. Geist & O. Pietquin, IJCAI 2020

Preprints

Oct 2021 *More Efficient Exploration with Symbolic Priors on Action Sequence Equivalences*
T. Johnstone, N. Grinsztajn, **J. Ferret** & P. Preux, arxiv preprint

Workshops

Dec 2019 *Credit Assignment as a Proxy for Transfer in Reinforcement Learning*
J. Ferret, R. Marinier, M. Geist & O. Pietquin, Learning Transferable Skills @NeurIPS 2019 (oral)

Blog Posts

Nov 2021 *Self-Supervised Reversibility-Aware Reinforcement Learning (Google AI Blog)*
Jan 2018 *Temporal Ensembling: Getting over 98% accuracy on weakly-supervised MNIST*

Invited Talks

2021 *Reversibility-Aware Reinforcement Learning*, Google Research RL Workshop
2021 *Self-Imitation Advantage Learning*, Inria Scool
2020 *The Problem of Temporal Credit Assignment in RL*, Inria CoML
2019 *Credit Assignment as a Proxy for Transfer in RL*, DeepMind Paris
2017 *Siamese Architectures for Question Answering*, Paris Deep Learning Meetup
2016 *Bird Species Recognition*, winning team presentation at ENS ChallengeData

Teaching

2019 *Reinforcement Learning Summer School*, Teacher Assistant