Quentin Gallouédec

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EDUCATION

2020– **Ph.D. student in Computer Science/Deep Reinforcement Learning**
Dissertation: Efficient exploration for reinforcement learning in the context of highly sparse reward environments.
Supervisor: Associate Prof. Emmanuel Dellandréa

2019-20 **M.S. in Electronics, Energy, Electricity and Automation**
Dissertation: Mixed-Precision in Graphics Processing Units
Supervisor: Prof. Ian O'Connor

2016-20 ***Diplôme d'Ingénieur*** **(M.S. and B.S. in Engineering Sciences)**,
École Centrale de Lyon, France
Majoring in Computer Science

2014-16 ***Classe Préparatoire*** **(equivalent to first two years of B.S.)**
Lycée Clemenceau, Nantes, France

RESEARCH INTEREST

I focus on the design of robust reinforcement learning algorithms, especially for highly sparse reward environments. I am currently exploring efficient exploration with the Go-Explore paradigm and curiosity-based methods.

PUBLICATIONS

Workshop Publications

2021 Gallouédec, Q., Cazin, N., Dellandréa, E., and Chen, L. "Multi-Goal Reinforcement Learning environments for simulated Franka Emika Panda robot." *4th Robot Learning Workshop: Self-Supervised and Lifelong Learning Workshop @ NeurIPS 2021*, arXiv:2106.13687

Reports and blog posts

2021– Gallouédec, Q. "Reinforcement Learning Review Series", Toward Data Science, Medium [Web blog posts]. Retrieved from qgallouedec.medium.com/

2020 Gallouédec, Q. "Mixed-Precision in Graphics Processing Units." *arXiv preprint* , arXiv:2110.12794

2020 Gallouédec, Q. "Deep Reinforcement Learning for soft objects grasping" Research internship report. qgallouedec.github.io/files/TFErapport.pdf

SUPERVISED STUDENT PROJECTS

2022	Automatic Curriculum Reinforcement Learning for simulated robotic applications (5 M.S. students)
2021	Investigation of an adversarial approach for reinforcement learning with a robotic arm (2 M.S. students)
2021	Analysis and development of an evaluation environment for reinforcement learning methods for robotics (2 M.S. students)
2021	Ignition for High performance simulation of soft object grasping (M.S. intern)
2021	Simulation and characterisation of a tactile sensor for learning robotic tasks. (4 M.S. students)
2020	Soft-information for indoor positioning of firefighters (14 M.S. students)

PROFESSIONAL EMPLOYMENT

2019-20 **Mathematics Interrogator, Lycée Aux Lazaristes**
For students in *classe préparatoire* (equivalent to the first two years of B.S.), preparing for the entrance exams to the most prestigious French universities.

2018-19 **Research and Development Officer, Paris Fire Brigade**
Machine learning for the prediction of rescue presentation time and optimization of operational coverage.
Realization of a prototype of indoor communication and localization system, based on LoRa/UWB technologies designed for the use of firefighters in constrained environments.

04-08/2018 **Reasearch intern, Polytechnique Montréal, Canada**
Supervisor: Prof. Maxime Raison
Description: development of a custom-made 3D printed robotic arm for the assistance of child amputees. Implementation of the acquisition chain (stereovision), the control chain and the learning of movements.

SUMMER SCHOOL ATTENDANCE

2021 Eastern European Machine Learning Summer School (EEML2021), Virtual Budapest, Hungary

MISCELLANEOUS

2021–	Official author in Toward Data Science (603k followers).
2019	National Defence Medalist for my commitment as a firefighter.
2019	Letter of congratulations from the Chief of Staff of the Paris Fire Brigade.
2019	Finisher of my first marathon (42.195 km; 3h19min) in Paris.
2012	Winner of *Science et vie junior magazine*'s *Innovez* national contest.
2011	Judo black belt, former national level athlete.

Updated December 2021