List of projects : Reinforcement Learning for stochastic control problems

The project should be realized by groups of two or three:

- Choice of a research paper in the list below
- Reading, understanding and discussion
- Illustration of the results of the paper with implementation of an algorithm.
- Writing of a report (8 pages maximum) and submission of the .ipynb or .py file.

Delivery of the reports (PDF file) and associated code at last on **March 31, 2026**.

(1) Yanwei Jia, Xun Yu Zhou (2021). *Policy gradient and actor–critic learning in continuous time and space: theory and algorithms.* arXiv:2111.11232.

(2) B. Ning, F. Ho Ting Lin, S. Jaimungal (2018). *Double deep Q-learning for optimal execution.* arXiv:1812.06600.

(3) M. Dai, Y. Sun, Z. Xu, X. Y. Zhou (2024). *Learning to optimally stop diffusion processes, with financial applications.* arXiv:2408.09242.

(4) A. Macrì, S. Jaimungal, F. Lillo (2025). *Deep reinforcement learning for optimal trading with partial information.* arXiv:2511.00190.

(5) J. Lalor, A. Swishchuk (2024). *Reinforcement learning in non-Markov market making.* arXiv:2410.14504.