

Davide Maran, Ph.D. Student

Experience

- June 2025 – Aug 2025 ■ **Quant Researcher (Intern), G-Research.** Worked with a large market dataset to optimize trade execution strategies. The project involved reinforcement learning, control theory, and market impact modeling.
- Feb 2025 – May 2025 ■ **Adjunct Lecturer, Politecnico di Milano.** Course: Probability and Statistics.
- Sept 2024 – Jan 2025 ■ **Visiting Researcher, University of Alberta.** Supervisor: **Prof. Csaba Szepesvári.** Worked on uniform learning guarantees for misspecified linear models.
- Jan 2022- Oct 2022 ■ **Research Fellow, Politecnico di Milano.** DEIB (Department Electronics Computer Science and Engineering).

Education

- 2022 – now ■ **Ph.D. Machine Learning, Politecnico di Milano.**
Supervisor: **Prof. Marcello Restelli.** Research topics: *Reinforcement Learning, Statistical Learning Theory, Representation Learning and Nonparametric Statistics.*
Thesis title: *Theoretical Guarantees for Reinforcement Learning in Continuous State and Action Spaces.*
- 2019 – 2021 ■ **M.Sc. Mathematical Engineering, Politecnico di Milano.**
Final grade: **110 cum laude/110**
Thesis title: *Delayed Reinforcement Learning, an Imitation Game.*
- 2016 – 2019 ■ **B.Sc. Mathematical Engineering, Politecnico di Milano.**
Thesis title: *Condition number of random matrices with i.i.d. rows.*

Research Publications

Twelve first-author or co-first-author publications in top conferences (3× NeurIPS, 2× ICML, 2× AACL, 2× AISTATS, 2× COLT) and journals (S&PL). **Research interests include:** Reinforcement Learning, Stochastic optimization, Nonparametric statistics. **Selected publications:**

1. **Davide Maran**, Csaba Szepesvári. Beyond Least Squares: Uniform Approximation and the Hidden Cost of Misspecification. Proceedings of the 39th Conference on Neural Information Processing Systems (**NeurIPS**), 2025.
2. **Davide Maran**, Alberto Maria Metelli, Matteo Papini and Marcello Restelli. Local Linearity: the Key for No-regret Reinforcement Learning in Continuous MDPs. Proceedings of the 38th Conference on Neural Information Processing Systems (**NeurIPS**), 2024.
3. **Davide Maran**, Marcello Restelli. Online Market Making and the Value of Observing the Order Book. Conference on Learning Theory (**COLT**), 2026.

Skills

- Languages ■ Italian (native), English (fluent).
- Coding ■ PYTHON (NumPy, Pandas, SciPy, Scikit-learn and many others), MATLAB, C/C++, R, SQL (basic), DOCKER (basic).
- ML Frameworks ■ PYTORCH, TENSORFLOW, JAX, STABLEBASELINES.
- Tools. ■ GIT, LATEX, VS CODE, JUPYTER, \LaTeX .