

# Francesco Emanuele Stradi

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## ABOUT ME

I am a Ph.D. student in computer science at Politecnico di Milano, where I am advised by Prof. Nicola Gatti. My current research focuses on online reinforcement learning (RL) in constrained Markov decision processes. In particular, I am interested in combining online (machine) learning theoretical tools with optimization techniques to build strategic agents able to act in complex constrained online environments.

## EDUCATION

- **Politecnico di Milano** 2022 - now  
*PhD in Computer Science* Milan, Italy
  - Advised by Prof. Nicola Gatti
- **Columbia University** February - April 2025  
*Visiting Scholar* New York City, USA
  - Working with Prof. Christian Kroer at IEOR Department
- **Politecnico di Milano** 2019 - 2022  
*Msc in Computer Science and Engineering* Milan, Italy
  - Grade: 110 cum laude/110
- **Politecnico di Milano** 2016 - 2019  
*Bsc in Computer Engineering* Milan, Italy

## EXPERIENCE

- **lastminute.com** June - September 2024  
*Machine Learning Scientist, internship* Chiasso, Switzerland
  - In charge of developing online learning algorithms for dynamic pricing
- **Polimi Artificial Intelligence Research and Innovation Center (Airic)** August - October 2022  
*Research Scientist, internship* Milan, Italy
  - In charge of selecting State-Of-The-Art artificial intelligence techniques and applying them in real world business oriented scenarios

## PUBLICATIONS

C=CONFERENCE, J=JOURNAL, W=WORKSHOP

- [C.1] **Francesco Emanuele Stradi**, Matteo Castiglioni, Alberto Marchesi and Nicola Gatti (2025). **Learning Adversarial MDPs with Stochastic Hard Constraints**. In *The 42nd International Conference on Machine Learning [ICML 2025]*.
- [C.2] **Francesco Emanuele Stradi**, Anna Lunghi, Matteo Castiglioni, Alberto Marchesi and Nicola Gatti (2025). **Policy Optimization for CMDPs with Bandit Feedback: Learning Stochastic and Adversarial Constraints**. In *The 42nd International Conference on Machine Learning [ICML 2025]*.
- [C.3] **Francesco Emanuele Stradi**, Matteo Castiglioni, Alberto Marchesi and Nicola Gatti (2025). **Optimal Strong Regret and Violation in Constrained MDPs via Policy Optimization**. In *The 13th International Conference on Learning Representations [ICLR 2025]*.
- [C.4] Davide Maran\*, Francesco Bacchiocchi\*, **Francesco Emanuele Stradi\***, Matteo Castiglioni, Nicola Gatti and Marcello Restelli (2024). **Bandits with Ranking Feedback**. In *The 37th Conference on Neural Information Processing Systems [NeurIPS 2024]*.
- [C.5] **Francesco Emanuele Stradi**, Jacopo Germano, Gianmarco Genalti, Matteo Castiglioni, Alberto Marchesi and Nicola Gatti (2024). **Online Learning in CMDPs: Handling Stochastic and Adversarial Constraints**. In *The 41st International Conference on Machine Learning [ICML 2024]*.
- [C.6] Francesco Bacchiocchi\*, **Francesco Emanuele Stradi\***, Matteo Papini, Alberto Maria Metelli, and Nicola Gatti (2024). **Online Learning with Off-Policy Feedback in Adversarial MDPs**. In *The 33rd International Joint Conference on Artificial Intelligence [IJCAI 2024]*.
- [C.7] Davide Maran\*, Pierricardo Olivieri\*, **Francesco Emanuele Stradi\***, Nicola Gatti and Marcello Restelli (2024). **Online Markov Decision Processes Configuration with Continuous Decision Space**. In *The 38th AAAI Conference on Artificial Intelligence [AAAI 2024]*.
- [W.1] **Francesco Emanuele Stradi**, Matteo Castiglioni, Alberto Marchesi and Nicola Gatti (2024). **Online learning in CMDPs with adversarial losses and stochastic hard constraints**. In *The 17th European Workshop on Reinforcement Learning [EWRL 2024]*.

- [W.2] Francesco Bacchiocchi\*, **Francesco Emanuele Stradi\***, Matteo Castiglioni, Alberto Marchesi and Nicola Gatti (2024). **Markov Persuasion Processes: How to Persuade Multiple Agents From Scratch**. In *ICML 2024 Workshop: Aligning Reinforcement Learning Experimentalists and Theorists [ARLET 2024]*.
- [W.3] Francesco Bacchiocchi\*, **Francesco Emanuele Stradi\***, Matteo Papini, Alberto Maria Metelli and Nicola Gatti (2023). **Online Adversarial MDPs with Off-Policy Feedback and Known Transitions**. In *The 16th European Workshop on Reinforcement Learning [EWRL 2023]*.
- [W.4] Davide Maran\*, Pierricardo Olivieri\*, **Francesco Emanuele Stradi\***, Nicola Gatti and Marcello Restelli. (2023). **Online Configuration in Continuous Decision Space**. In *The 16th European Workshop on Reinforcement Learning [EWRL 2023]*.

\* stands for equal contribution

## TEACHING

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- **Probabilità e Statistica Matematica, TA** Spring 2024  
*Politecnico di Milano*
  - Bsc in Management Engineering
- **Statistica, TA** Spring 2024  
*Politecnico di Milano*
  - Bsc in Mechanical Engineering

## SERVICE

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- **Reviewing:** ICLR (2025), ICML (2025), NeurIPS (2025)

## PROGRAMMING

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- **Programming Languages:** C, Java, Python, SQL, Ampl

## ADDITIONAL INFORMATION

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- **Languages:** Italian (Native), English (Proficiency level)