
Contact Information

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Highlights

Matteo Papini is an **Assistant Professor** (RTD-A) at **Politecnico di Milano**, Milan, Italy, in the Artificial Intelligence and Robotics Lab. His research is directed towards the development of intelligent systems, with a focus on the problem of *sequential decision making under uncertainty*, using the theory and algorithmic solutions of **reinforcement learning** and **contextual bandits**. In 2021 he earned a PhD in Information Technology (cum laude) from Politecnico di Milano, Milan, Italy, under the supervision of Marcello Restelli, with a dissertation on safe policy optimization. In 2020 he worked as a student research intern at Facebook AI Research (now Meta). From 2021 to 2023 he was a postdoctoral researcher in the Artificial Intelligence and Machine Learning Research Group of **Universitat Pompeu Fabra** (UPF), Barcelona, Spain, in Gergely Neu's team.

He has authored 13 peer-reviewed conference papers, including publications at top artificial intelligence and machine learning conferences such as **NeurIPS (5 papers)**, **ICML (3)**, **AAAI (2)** and **IJCAI (1)**. Of these, one was awarded an oral presentation at NeurIPS 2018, which was only granted to the top 3% of the accepted papers. Moreover, he has published peer-reviewed manuscripts at renowned peer-reviewed machine learning journals — one on **JMLR** and one on Springer's **Machine Learning**. Among his recurring co-authors are Marcello Restelli (Politecnico di Milano), Matteo Pirota, Alessandro Lazaric (Meta AI Paris), and Gergely Neu (UPF).

He is a member of **ELLIS** (European Laboratory for Learning and Intelligent Systems). He has worked as a teaching assistant for several classes at Politecnico di Milano and for two international reinforcement learning summer schools. He has served as a reviewer in the program committee of several conferences including NeurIPS, ICML and AAAI. In 2023, with Vincent Adam (UPF), he led the organization of the **Reinforcement Learning Summer School (RLSS 2023)** at UPF.

Faculty and Research Positions

- September 2023–present **Assistant Professor (RTDA)**, *Politecnico di Milano*, Milan, Italy
- 2021–2023 **Postdoctoral researcher**, *Universitat Pompeu Fabra*, Barcelona
- Mar–Apr 2021 **Research Assistant** (Attività di Supporto alla Ricerca), *Dipartimento di Elettronica, Informazione e Bioingegneria, Politecnico di Milano*, Milan, Italy
Research Topic: Reinforcement Learning Techniques for Developing Artificial Test Drivers on a F1 Simulator, Principal Investigator: Marcello Restelli
- Sep–Dec 2020 **Research Intern at Facebook AI Research**, working (remotely) with the Paris FAIR team, under the supervision of Matteo Pirota. Research topic: representation learning for contextual bandits. The project led to the publication of a paper at ICML 2021 [C3]
- Nov 2017–Mar 2021 **Research Assistant** (Assegno di Ricerca), *Dipartimento di Elettronica, Informazione e Bioingegneria, Politecnico di Milano*, Milan, Italy
Research topic: *Study and Development of Reinforcement Learning Techniques in Industrial Settings*, Principal Investigator: Marcello Restelli.

Education

- 2017–2021 **Ph.D., Ingegneria dell'Informazione / Information Technology**, Politecnico di Milano, Milan, Italy
Supervisor: Prof. Marcello Restelli
Dissertation: *Safe Policy Optimization* (<http://hdl.handle.net/10589/170196>)
[Awarded cum laude](#)
Date of degree: March 11, 2021
- 2015–2017 **M.Sc., Computer Science and Engineering - Ingegneria Informatica**, *Politecnico di Milano, Milan, Italy*
Master Thesis: *Adaptive Batch Size for Safe Policy Gradient Methods*, supervised by Prof. Marcello Restelli
Final mark: 110/110 cum laude
Date of degree: July 27, 2017
- 2012–2015 **B.Sc., Ingegneria Informatica (Computer Engineering)**, *Politecnico di Milano, Milan, Italy*
Final mark: 110/110 cum laude
Date of degree: July 24, 2015
- 2007–2012 **High School Diploma**, *Ist. Istr. Sup. P.L. Nervi*, Morbegno (SO), Italy, Final mark: 100/100
This school ranked first in Italy for several years according to Eduscopio (<https://eduscopio.it/>)

Author Profile

- Google Scholar **h-index 12**, <https://scholar.google.it/citations?user=A2WxZlsAAAAJ>
- Scopus <https://www.scopus.com/authid/detail.uri?authorId=57202057824>
- dblp <https://dblp.uni-trier.de/pid/209/4897.html>

Summary of Publications

Journal/Conference	# Papers	Rating	Homepage
Machine Learning	1	Scimago Q1	https://www.springer.com/journal/10994
JMLR	1	Scimago Q1	http://www.jmlr.org/
NeurIPS	5	CORE A*, GGS A++	https://nips.cc/
ICML	3	CORE A*, GGS A++	https://icml.cc/
AAAI	2	CORE A*, GGS A++	https://aaai.org/Conferences/AAAI-23/
IJCAI	1	CORE A*, GGS A++	https://www.ijcai.org/
AISTATS	1	CORE A, GGS A+	https://aistats.org/
IJCNN	1	CORE B, GGS A-	https://2023.ijcnn.org/
ALT	2	CORE B, GGS B	http://algorithmiclearningtheory.org/

Selected Publications (12)

- [1] **M. Papini**, D. Binaghi, G. Canonaco, M. Pirotta, M. Restelli: *Stochastic variance-reduced policy gradient*. **ICML** (2018) — **CORE A*, GGS A++**
- [2] A.M. Metelli, **M. Papini**, F. Faccio, M. Restelli: *Policy optimization via importance sampling*. **NeurIPS (oral presentation, top 3%)** (2018) — **CORE A*, GGS A++**
- [3] **M. Papini**, A. Tirinzoni, M. Restelli, A. Lazaric, M. Pirotta: *Leveraging good representations in linear contextual bandits*. **ICML** (2021) — **CORE A*, GGS A++**
- [4] **M. Papini**, M. Pirotta, M. Restelli: *Adaptive batch size for safe policy gradients*. **NeurIPS** (2017) — **CORE A*, GGS A++**
- [5] **M. Papini**, M. Pirotta, M. Restelli: *Smoothing policies and safe policy gradients*. Springer's **Machine Learning** (2022) — **Scimago Q1**
- [6] A.M. Metelli, **M. Papini**, N. Montali, M. Restelli: *Importance Sampling Techniques for Policy Optimization*. **Journal of Machine Learning Research (JMLR)** 21.141 (2020) — **Scimago Q1**
- [7] G. Neu, J. Olkhovskaya, **M. Papini**, L. Schwartz: *Lifting the Information Ratio: An Information-Theoretic Analysis of Thompson Sampling for Contextual Bandits*. **NeurIPS** (2022) — **CORE A*, GGS A++**. (authors in alphabetical order)
- [8] **M. Papini**, A.M. Metelli, L. Lupo, M. Restelli: *Optimistic policy optimization via multiple importance sampling*. **ICML** (2019) — **CORE A*, GGS A++**
- [9] **M. Papini**, A. Tirinzoni, A. Pacchiano, M. Restelli, A. Lazaric, M. Pirotta: *Reinforcement learning in linear mdps: Constant regret and representation selection*. **NeurIPS** (2021) — **CORE A*, GGS A++**
- [10] A. Tirinzoni, **M. Papini**, A. Touati, A. Lazaric, M. Pirotta: *Scalable Representation Learning in Linear Contextual Bandits with Constant Regret Guarantees*. **NeurIPS** (2022) — **CORE A*, GGS A++**
- [11] L. Bisi, L. Sabbioni, E. Vittori, **M. Papini**, M. Restelli: *Risk-averse trust region optimization for reward-volatility reduction*. **IJCAI** (2020) — **CORE A*, GGS A++**

- [12] A.M. Metelli, **M. Papini**, P. D'Oro, M. Restelli: *Policy optimization as online learning with mediator feedback*. **AAAI** (2021) — **CORE A***, **GGs A++**

Awards, Grants, and Recognitions

- Nov 16, 2022 **Recipient of Ayudas Juan de la Cierva-Formación 2021**, *research grant for postdoctoral researchers instructed by the Spanish research agency (Agencia Estatal de Investigación), funded by NextGenerationEU*
Role: researcher (Investigador). **Ranked third** in national call for the area of Information and Communication Technologies. Total amount granted for 2 years: 64.800€
<https://www.aei.gob.es/convocatorias/buscador-convocatorias/ayudas-contratos-juan-cierva-formacion-2021>
- Feb 2022 **Member of ELLIS**, <https://ellis.eu/>
- 2021 **Neurips outstanding reviewer award**, *top 8%*
- 2020 **ICML top reviewer** certificate of appreciation, *top 33%*
- 2019 **ICML travel award**, *\$1300 USD*
- 2018 **Oral presentation at NeurIPS**, *top 3%*
- 2018 **Neurips travel award**, *\$1000 USD*
- 2018 **ICML travel award**, *\$1500 USD*
- 2017 **Neurips travel award**, *\$1200 USD*

Participation in Funded Projects

- 1 September 2023-present **Research Scientist**, *Artificial Intelligence Foundations for Sequential Decision Making*
Extended Partnership - Future Artificial Intelligence Research (FAIR). National Recovery and Resilience Plan, Mission 4 "Education and research" - Component 2 "From research to business" - Investment 1.3, funded by the European Union - NextGenerationEU
Principal Investigator: Nicola Gatti
- 2019-2021 **Research Scientist**, *Provably Efficient Algorithms for Large-Scale Reinforcement Learning*
ERC (Grant agreement No. 950180)
Principal Investigator: Gergely Neu
- 2021 **Research Scientist**, *Reinforcement learning techniques for developing artificial test drivers on a F1 simulator*, Ferrari
Industrial project.
Principal Investigator: Marcello Restelli
- 2017-2019 **Research Scientist**, *TOTAL EFFICIENCY 4.0, (POR FESR)*
In collaboration with Pirelli Tyre S.p.A.
Principal Investigator: Marcello Restelli

Organization of Scientific Events

- 2023 **Reinforcement Learning Summer School (RLSS)**, *June 28–July 5 2023, Universitat Pompeu Fabra, Barcelona, Spain. Role: Main Organizer (co-organized with Vincent Adam)*, <https://rlsummerschool.com/>
- 2023 **ELLIS Pre-NeurIPS Fest**, *December 4 2023, ELLIS Unit of Milan. Role: co-organizer*, <https://www.ellis-milan.eu/2023/12/05/ellis-pre-neurips-fest-2023-in-milan/>

Invited Talks

- January 12, 2024 **Invited talk at the "Mini-Workshop on Reinforcement Learning"**, *University of Mannheim, Germany (scheduled)*
- May 25, 2023 **Invited talk at the Theory of Reinforcement Learning Workshop**, *University of Alberta, Edmonton, Canada*, titled "Offline Primal-Dual Reinforcement Learning for Linear MDPs"
- May 11, 2023 **Invited talk at the AI Seminars**, *Politecnico di Milano, Milan, Italy*, titled "Large-Scale Offline Reinforcement Learning"
- Sep 16, 2022 **Invited talk at the Reinforcement Learning Conference**, *Technische Universität Dresden, Dresden, Germany*, titled "Lifting the Information Ratio"
- Jul 1, 2021 **Invited talk at Mathematical Statistics and Learning**, *Barcelona Graduate School of Economics, Barcelona, Spain*, titled "Leveraging Good Representations in Linear Contextual Bandits and MDPs"
- Nov 6, 2020 **Invited talk at Gerhard Neumann's research seminar**, *Karlsruhe Institute of Technology (delivered online)*, titled "Safe Policy Optimization"
- Sep 19, 2019 **Invited talk at the Workshop on Markets, Algorithms, Prediction and LEarning (MAPLE)**, *Politecnico di Milano, Milan, Italy*, titled "Optimistic Policy Optimization via Multiple Importance Sampling"

Teaching Experience

- 2024 **Teaching Assistant**, *Politecnico di Milano, Milan, Italy*
Informatica (computer science for civil engineering students), resp. Prof. Marcello Restelli, 24 hours, II semester 2023/2024
- 2024 **Teaching Assistant**, *Politecnico di Milano, Milan, Italy*
Machine Learning, resp. Prof. Marcello Restelli, 20 hours, II semester 2023/2024
- 2023 **Teaching Assistant**, *Politecnico di Milano, Milan, Italy*
Foundations of Artificial Intelligence, resp. Prof. Francesco Amigoni and Pierluca Lanzi, 16 hours, I semester 2023/2024
- Jul 2022 **Teaching Assistant**, *Reinforcement Learning Summer School, Vrije Universiteit Amsterdam, Amsterdam, the Netherlands*
Role: delivered a tutorial on implementing policy-gradient algorithms with JAX, tutored students in practical sessions.
- 2022 **Teaching Assistant**, *Politecnico di Milano, Milan, Italy*
Intelligenza Artificiale (Artificial Intelligence — online class), resp. Prof. Andrea Bonarini, 6 hours, attività di didattica integrativa, II semester 2021/2022
- 2021 **Teaching Assistant**, *Politecnico di Milano, Milan, Italy*
Intelligenza Artificiale (Artificial Intelligence — online class), resp. Prof. Andrea Bonarini, 6 hours, attività di didattica integrativa, II semester 2020/2021
- 2020 **Teaching Assistant**, *Politecnico di Milano, Milan, Italy*
Intelligenza Artificiale (Artificial Intelligence — online class), resp. Prof. Andrea Bonarini, 6 hours, attività di didattica integrativa, II semester 2019/2020
- 2019 **Teaching Assistant**, *Politecnico di Milano, Milan, Italy*
Informatica B (computer science for mechanical engineering students), resp. Prof. Luca Cassano, 26 hours, attività di didattica integrativa (esercitatori), I semester 2019/2020

- 2018 **Teaching Assistant**, *Politecnico di Milano, Milan, Italy*
 Informatica B (computer science for mechanical engineering students), resp. Prof. Luca Cassano, 28 hours, attività di didattica integrativa (esercitatori), I semester 2018/2019
- 1-12 Jul 2019 **Teaching Assistant**, *Reinforcement Learning Summer School, Inria Lille-Nord Europe, Lille, France*, Role: tutored students in practical sessions
- 2018 **Teaching Assistant**, *Politecnico di Milano (Polo Territoriale di Como), Como, Italy*
 Web and Internet Economics, resp. Prof. Nicola Gatti, 10 hours, attività di didattica integrativa (esercitatori), II semester 2017-2018
- 2017 **Lab Assistant**, *Politecnico di Milano, Milan, Italy*
 Informatica B (computer science for mechanical engineering students), resp. Prof. Luca Cassano, 9 hours, attività di didattica integrativa sperimentale (ex responsabili di laboratorio), I semester 2017-2018
- 2016 **Lab Tutor**, *Politecnico di Milano, Milan, Italy*
 Prova Finale-Ingegneria del Software (software engineering: final project), resp. Prof. Carlo Ghezzi, 32 hours, attività di tutorato (ex tutor di laboratorio), II semester 2015/2016

Participation on Committees

- December 19 2023 **Committee member for degree examination**, *M. Sc. in Computer Science and Engineering, Politecnico di Milano*, committee president: M. Restelli.
- March 30 2023 **Board member for the Thesis Proposal Defenses**, *PhD program in Information and Communication Technologies, Universitat Pompeu Fabra, Barcelona, Spain*, board president: G. Neu
- 2023 **Jury Member for the CLAIRE R2Net 2022 Papers Highlights**
- 2021, 2022 **Evaluator** for the pre-screening of applicants to the ELLIS PhD program
- July 5 2022 **Jury member for the undergraduate thesis defenses**, *Universitat Pompeu Fabra, Barcelona, Spain*, Jury president: J. Aguas
- March 17 2022 **Board member for the Thesis Proposal Defense**, *PhD program in Information and Communication Technologies, Universitat Pompeu Fabra, Barcelona, Spain*, board president: G. Neu

Editorial Activities

- 2022-present Reviewer for Transactions on Machine Learning Research (TMLR)
- 2023 Reviewer for ICML, COLT, EWRL, ICLR, AISTATS
- 2022 Reviewer for Reviewer for IEEE Transactions on Automatic Control (TACON)
- 2022 Reviewer for ICML, NeurIPS, EWRL
- 2021 **Outstanding Reviewer** (top 8%) for NeurIPS, **expert reviewer** for ICML, reviewer for AISTATS, emergency reviewer for AAAI
- 2020 **Top 33% reviewer** for ICML, reviewer for NeurIPS, AISTATS, AAAI, UAI, ECAI
- 2019 Reviewer for ICML, NeurIPS, UAI

Attendance to Conferences and Workshops

- 2024 **Mini Workshop on Reinforcement Learning**, *Mannheim, Germany*, 1 invited talk (scheduled)
- 2023 **EWRL 16**, *Brussels, Belgium*, 2 posters
- 2023 **AISTATS**, *Valencia, Spain*
- 2023 **Upper Bound**, *Edmonton, Canada*, invited talk at the RL Theory Workshop
- 2023 **ALT**, *Singapore*, attended as co-author and served as **session chair**
- 2022 **NeurIPS**, *New Orleans, USA*, presented 2 posters in poster sessions
- 2022 **ELLIS ILIR Workshop**, *Feldberg, Germany*
- 2022 **EWRL 15**, *Milan, Italy*, presented 2 posters in poster sessions
- 2022 **Reinforcement Learning Conference**, *Dresden, Germany*, invited talk
- 2022 **ICML-2022 Workshop on Complex Feedback in Online Learning**, *Baltimore, USA*, presented 1 poster in poster session
- 2021 **NeurIPS**, *online edition*, presented 1 poster in online poster session and recorded 1 spotlight talk
- 2021 **Mathematical Statistics and Learning**, *Barcelona, Spain*, invited talk
- 2021 **ICML**, *online edition*, presented 1 poster in online poster session and recorded 1 talk
- 2021 **AAAI**, *online edition*, presented 1 poster in online poster session
- 2021 **IJCAI**, *online edition*, presented 1 poster in online poster session
- 2020 **NeurIPS**, *online edition*, attended online
- 2020 **AISTATS**, *online edition*, recorded 1 talk
- 2019 **Workshop MAPLE**, *Milan, Italy*, invited talk
- 2019 **ICML**, *Long Beach, USA*, presented 1 poster and delivered 1 oral presentation
- 2018 **NeurIPS**, *Montreal, Canada*, presented 1 poster and delivered 1 oral presentation
- 2018 **EWRL 14**, *Lille, France*, presented 1 poster
- 2018 **ICML**, *Stockholm, Sweden*, presented 1 poster and delivered 1 oral presentation
- 2017 **NeurIPS**, *Long Beach, USA*, presented 1 poster

Attendance to Summer Schools and Exchange Programs

- Jul 24–Aug 2 **CIFAR Deep Learning and Reinforcement Learning Summer School**, Toronto, Canada, presented 1 poster
- 2018
- 7-14 Oct **ACAI Summer School on Reinforcement Learning**, Nieuwpoort, Belgium
- 2017
- Autumn 2016 **Erasmus Programme**, KTH Royal Institute of Technology, Stockholm, Sweden

Student Supervision and Mentoring

- 2020 **Co-Supervisor of the Master Thesis** (Correlatore) of Pietro Melzi (now PhD student at Universidad Autónoma de Madrid), "*Deterministic policy optimization: an approach to safe reinforcement learning*", supervised by M. Restelli, Politecnico di Milano, Milan, Italy
- 2019 **Co-Supervisor of the Master Thesis** (Correlatore) of Guido Dino Ballabio, "*Cutting back on MDP's features. A theoretically grounded approach to feature selection in reinforcement learning*", with A.M. Metelli and A. Tirinzoni, supervised by M. Restelli, Politecnico di Milano, Milan, Italy
- 2019 **Co-Supervisor of the Master Thesis** (Correlatore) of Pierluca D'Oro (now PhD student at MILA), "*Reinforcement learning through adaptive policy spaces*", with A.M. Metelli and A. Tirinzoni, supervised by M. Restelli, Politecnico di Milano, Milan, Italy
- 2019 **Co-Supervisor of the Master Thesis** (Correlatore) of Giovanni Pelosi, "*Reinforcement learning through adaptive policy spaces*", with M. Mutti, supervised by M. Restelli, Politecnico di Milano, Milan, Italy
- 2019 **Co-Supervisor of the Master Thesis** (Correlatore) of Alessio Mongelluzzo (now Senior Research Engineer at Nuance Communications), "*A data-driven approach to detect faults in the tire building process*", with F. Trovò, supervised by M. Restelli, Politecnico di Milano, Milan, Italy
- 2019 **Co-Supervisor of the Master Thesis** (Correlatore) of Lorenzo Lupo (now PhD student at Université Grenoble Alpes), "*Exploration in policy search via multiple importance sampling*", with A.M. Metelli, supervised by M. Restelli, Politecnico di Milano, Milan, Italy
- 2018 **Co-Supervisor of the Master Thesis** (Correlatore) of Francesco Faccio (now PhD student at IDSIA), "*A study of importance sampling techniques for policy optimization*", with A.M. Metelli and J. Schmidhuber, supervised by M. Restelli, Politecnico di Milano, Milan, Italy
- 2018 **Co-Supervisor of the Master Thesis** (Correlatore) of Andrea Battistello, "*Balancing safety and exploration in policy gradient*", supervised by M. Restelli, Politecnico di Milano, Milan, Italy
- 2018 **Co-Supervisor of the Master Thesis** (Correlatore) of Giuseppe Canonaco (PhD from Politecnico di Milano) and Damiano Binaghi (now Computer Vision and Deep Learning Engineer at Artificialy), "*Stochastic variance reduced policy gradient*", with M. Pirotta, supervised by M. Restelli, Politecnico di Milano, Milan, Italy

Complete List of Papers

Journal Papers

- [J1] M. Papini, M. Pirotta, and M. Restelli. Smoothing policies and safe policy gradients. *Machine Learning*, 2022, 1-57 (<https://rdcu.be/c0a7S>)
- [J2] A. M. Metelli, M. Papini, N. Montali, M. Restelli. Importance Sampling Techniques for Policy Optimization. *J. Mach. Learn. Res.* 21.141., pp. 1-75, 2020

Conference Papers

- [C1] G. Gabbianelli, G. Neu, and M. Papini. Importance-weighted offline learning done right. In *ALT*, 2024 (to appear in proceedings).
- [C2] G. Gabbianelli, G. Neu, and M. Papini. Online learning with off-policy feedback. In *ALT*, volume 201 of *Proceedings of Machine Learning Research*, pages 620–641. PMLR, 2023.
- [C3] A. Tirinzoni, M. Papini, A. Touati, A. Lazaric, and M. Pirotta. Scalable representation learning in linear contextual bandits with constant regret guarantees. *Advances in Neural Information Processing Systems*, 35:2307–2319, 2022.
- [C4] G. Neu, I. Olkhovskaia, M. Papini, and L. Schwartz. Lifting the information ratio: An information-theoretic analysis of thompson sampling for contextual bandits. *Advances in Neural Information Processing Systems*, 35:9486–9498, 2022.
- [C5] M. Papini, A. Tirinzoni, M. Restelli, A. Lazaric, and M. Pirotta. Leveraging good representations in linear contextual bandits. In *ICML*, volume 139 of *Proceedings of Machine Learning Research*, pages 8371–8380. PMLR, 2021.
- [C6] M. Papini, A. Tirinzoni, A. Pacchiano, M. Restelli, A. Lazaric, and M. Pirotta. Reinforcement learning in linear mdps: Constant regret and representation selection. In *NeurIPS*, pages 16371–16383, 2021.
- [C7] A. M. Metelli, M. Papini, P. D’Oro, and M. Restelli. Policy optimization as online learning with mediator feedback. In *AAAI*, pages 8958–8966. AAAI Press, 2021.
- [C8] M. Papini, A. Battistello, and M. Restelli. Balancing learning speed and stability in policy gradient via adaptive exploration. In *AISTATS*, volume 108 of *Proceedings of Machine Learning Research*, pages 1188–1199. PMLR, 2020.
- [C9] P. D’Oro, A. M. Metelli, A. Tirinzoni, M. Papini, and M. Restelli. Gradient-aware model-based policy search. In *AAAI*, pages 3801–3808. AAAI Press, 2020.
- [C10] L. Bisi, L. Sabbioni, E. Vittori, M. Papini, and M. Restelli. Risk-averse trust region optimization for reward-volatility reduction. In *IJCAI*, pages 4583–4589. ijcai.org, 2020.
- [C11] M. Papini, A. M. Metelli, L. Lupo, and M. Restelli. Optimistic policy optimization via multiple importance sampling. In *ICML*, volume 97 of *Proceedings of Machine Learning Research*, pages 4989–4999. PMLR, 2019.
- [C12] M. Beraha, A. M. Metelli, M. Papini, A. Tirinzoni, and M. Restelli. Feature selection via mutual information: New theoretical insights. In *IJCNN*, pages 1–9. IEEE, 2019.
- [C13] M. Papini, D. Binaghi, G. Canonaco, M. Pirotta, and M. Restelli. Stochastic variance-reduced policy gradient. In *ICML*, volume 80 of *Proceedings of Machine Learning Research*, pages 4023–4032. PMLR, 2018.
- [C14] A. M. Metelli, M. Papini, F. Faccio, and M. Restelli. Policy optimization via importance sampling. In *NeurIPS*, pages 5447–5459, 2018.

- [C15] M. Papini, M. Pirotta, and M. Restelli. Adaptive batch size for safe policy gradients. In *NeurIPS*, pages 3591–3600, 2017.

Workshop Papers

- [W8] F. Bacchiocchi, F. E. Stradi, M. Papini, A. M. Metelli, N. Gatti. Online Adversarial MDPs with Off-Policy Feedback and Known Transitions. 16th European Workshop on Reinforcement Learning, Brussels, Belgium, 2023
- [W7] G. Gabbianelli, G. Neu, N. Okolo, M. Papini. Offline Primal-Dual Reinforcement Learning for Linear MDPs. 16th European Workshop on Reinforcement Learning, Brussels, Belgium, 2023
- [W1] G. Neu, J. Olkhovskaya, M. Papini and L. Schwartz. Lifting the Information Ratio: An Information-Theoretic Analysis of Thompson Sampling for Contextual Bandits. 15th European Workshop on Reinforcement Learning, Milan, Italy, 2022
- [W2] A. Tirinzoni, M. Papini, A. Touati, A. Lazaric, and M. Pirotta. Scalable Representation Learning in Linear Contextual Bandits with Constant Regret Guarantees. 15th European Workshop on Reinforcement Learning, Milan, Italy, 2022
- [W3] G. Gabbianelli, M. Papini, G. Neu. Online Learning with Off-Policy Feedback. ICML-2022 workshop on Complex Feedback in Online Learning, Baltimore, USA, 2022
- [W4] A. Gianola, M. Montali, and M. Papini. Automated Reasoning for Reinforcement Learning Agents in Structured Environments. OVERLAY workshop on fOrmal VERification, Logic, Automata and sYNthesis, Padova, Italy, 2021
- [W2] M. Papini, A. Tirinzoni, A. Pacchiano, M. Restelli, A. Lazaric, and M. Pirotta. Reinforcement Learning in Linear MDPs: Constant Regret and Representation Selection. ICML Workshop on Reinforcement Learning Theory, virtual, 2021
- [W5] M. Papini, A. Battistello, and M. Restelli. Safe Exploration in Gaussian Policy Gradient. NeurIPS-2019 Workshop on Safety and Robustness in Decision Making, Vancouver, Canada, 2019
- [W6] M. Papini, A. Battistello, and M. Restelli. Safely Exploring Policy Gradient. 14th European Workshop on Reinforcement Learning, Lille, France, 2018

Languages

Italian, *native speaker*

English, *fluent (Cambridge FCE, Grade A — C1 CEFR level)*

Spanish, *intermediate (completed course of level B1 at UPF Barcelona)*

Programming Languages

Python (several research projects) including experience with deep learning libraries **TensorFlow** and **PyTorch**, **LaTeX** (typesetting of several manuscripts), **C++** (one research project, one mobile robotics project as master student), **C**, **MATLAB** (taught as TA), **Java** (final project of B.Sc.).

Hobbies

Climbing, piano.