

ALBERTO MARIA METELLI

Curriculum Vitae et Studiorum



Dipartimento di Elettronica, Informazione e Bioingegneria
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SUMMARY

Alberto Maria Metelli is an Assistant Professor of Information Processing Systems with the Dipartimento di Elettronica, Informazione e Bioingegneria (DEIB) in the Artificial Intelligence and Robotics Laboratory (AIRLab) at Politecnico di Milano (PoliMi). He obtained the Ph.D. in Information Technology (cum Laude) in March 2021 at Politecnico di Milano defending a thesis about environment configuration in reinforcement learning, awarded the “Premio NeoDottori di Ricerca Marco Cadoli 2021” as the best Italian Ph.D. thesis in Artificial Intelligence (from AIxIA) and published in the book series “Frontiers in Artificial Intelligence and Applications” (FAIA) [B1]. He won the FIS2 Starting Grant in 2025, ranked first among the Computer Science and Informatics applicants, funded by MUR. He is co-founder of ML Cube S.r.l., an innovative start-up, nominated by Fortune Italia as one of the top 20 Italian AI start-ups in 2022. His main research interests revolve around artificial intelligence and machine learning for *sequential decision-making*, in particular *reinforcement learning* (RL). He is currently working on theoretical and algorithmic aspects of inverse RL [C44, C29, C6], policy-based RL [C53, C42, C3], RL and multi-armed bandits in structured environments [C38, C31, C10], and preference-based RL. He participates in research projects about reinforcement learning for autonomous driving [J15], defense, Industry 4.0, trading, and safety-critical networks [W1, R1]. He is also interested in algorithms, optimization, statistics, probability, and recommendation systems [W29].

HIGHLIGHTS

- **Assistant professor** at DEIB, Politecnico di Milano, since March 2023.
- **National scientific qualification** as Italian associate professor (sector 09/H1), until February 2034.
- **Winner of the FIS2 (Fondo Italiano per la Scienza) Starting Grant** (1.325M€), ranked first among the PE6 Computer Science and Informatics applicants, funded by MUR.
- Author/Co-author of 16 publications in peer-reviewed international journals (4 as main contributor, 1 single-author), including JMLR (3), MLJ (3), JAIR (1), RAS (1), ESWA (1), IEEE TNNLS (1), IEEE TITS (1), and DMKD (1). According to Scimago Journal Rank: **11 articles in Q1 journals**. Author/Co-author of 55 publications in peer-reviewed international conferences (14 as main contributor), including ICML (16), NeurIPS (13), AAAI (7), IJCAI (1), AISTATS (6), COLT (2), and UAI (1). According to GGS Conference Rating: **37 publications in A++ venues** and 6 publications in A+ venues (Class 1).
- Winner of both “**Premio NeoDottori di Ricerca Marco Cadoli 2021**” and “**Premio NeoLaureati Leonardo Lesmo 2018**” for the best Italian Ph.D. thesis and M.Sc. thesis in Artificial Intelligence respectively, awarded by Associazione Italiana per l’Intelligenza Artificiale (AIxIA).
- **Oral presentation at NeurIPS 2018** (30/4856 submissions, 0.62%) and **notable paper at AISTATS 2023** (32/1689 submissions, 1.9%).
- **Lecturer** of the Ph.D. course **Reinforcement Learning** (since a.y. 2021-2022) and of the B.Sc. course **Computer Science** (since a.y. 2023-2024) at Politecnico di Milano. Teaching assistant of M.Sc. course Machine Learning (since a.y. 2021-2022) and of B.Sc./M.Sc. course Foundations of Artificial Intelligence (since a.y. 2021-2022) at Politecnico di Milano.
- **Associate Editor** of **IEEE RA-L** and **Action Editor** of **TMLR**. **Program chair and co-organizer** of the 15th European Workshop of Reinforcement Learning (**EWRL 2022**). **Senior PC member** of AAAI 2022 and **IJCAI 2021** and **Area chair** of ICML 2024-2025, NeurIPS 2024, and AISTATS 2025.
- Participation in 9 industrial research projects funded by private companies (3 as **(co-)PI**) and in 5 competitive research project funded by public institutions (2 as **(co-)PI**).
- (Co-)Supervisor of 10+ Ph.D. students and of 40+ M.Sc. students at Politecnico di Milano.
- Member of the **ELLIS** Society and **CLAIRE** supporter.
- **Co-founder** of **ML Cube S.r.l.**, accredited spin-off of the Politecnico di Milano, born in November 2020.

ACADEMIC EXPERIENCE

Assistant Professor (Ricercatore a tempo determinato (Junior) - L.240/2010, art.24, c.3, lett.a)) *March 2023-
Politecnico di Milano - Dipartimento di Elettronica, Informazione e Bioingegneria Milan, Italy*
Research programme: “Artificial intelligence foundations for sequential decision making”.
SSD: IINF05/A, GSD: 09/IINF-05 - Sistemi di elaborazione delle informazioni.

Postdoctoral Researcher (Assegnista di ricerca - L.240/2010, art.22) *November 2020-February 2023
Politecnico di Milano - Dipartimento di Elettronica, Informazione e Bioingegneria Milan, Italy*
Research title: “Development of reinforcement learning algorithms for autonomous driving applications”.
Research manager: Prof. Marcello Restelli.
SSD: ING-INF/05 - Sistemi di elaborazione delle informazioni.

NATIONAL SCIENTIFIC QUALIFICATIONS

National Scientific Qualification as Italian Associate Professor *February 2023*
(Abilitazione Scientifica Nazionale - L.240/2010, art.16)
Professore di II fascia - Settore concorsuale: 09/H1 - Sistemi di elaborazione delle informazioni.
Validity: 06/02/2023 - 06/02/2035

NATIONAL PROFESSIONAL QUALIFICATIONS

Professional Qualification as Italian Information Engineer *September 2021*
(Abilitazione all'esercizio della professione di Ingegnere dell'Informazione - DPR.328/2001)
Sezione A - Settore dell'informazione. I Sessione 2021 - Politecnico di Milano.

EDUCATION

Ph.D. in Information Technology (Dottorato di ricerca) *November 2017-October 2020
Politecnico di Milano - Dipartimento di Elettronica, Informazione e Bioingegneria Milan, Italy*
Supervisor: Prof. Marcello Restelli. Tutor: Prof. Nicola Gatti.
Ph.D. Thesis: “Exploiting environment configurability in reinforcement learning”.
Reviewers: Prof. Amir-massoud Farahmand (Vector Institute, University of Toronto), Prof. Alessandro Lazaric (Facebook AI, Paris).
Date of award: 11 March 2021. Final Mark: **Laude**.

M.Sc. in Computer Science and Engineering (LM-32 Ingegneria Informatica) *October 2015-July 2017
Politecnico di Milano Milan, Italy*
M.Sc. Thesis: “Compatible reward inverse reinforcement learning”.
Supervisor: Prof. Marcello Restelli. Co-supervisor: Dott. Matteo Pirota.
Date of award: 27 July 2017. GPA: 30/30 (17 exams *cum laude* out of 19). Final Mark: **110/110 cum Laude**.

B.Sc. in Engineering of Computing Systems (L-8 Ingegneria dell'informazione) *October 2012-July 2015
Politecnico di Milano Milan, Italy*
Date of award: 24 July 2015. GPA: 30/30 (17 exams *cum laude* out of 22). Final Mark: **110/110 cum Laude**.

High School Diploma *September 2007-July 2012
IISS Ettore Majorana Seriate (Bg), Italy*
Specialization in Computer Science (Perito Informatico). Final Mark: 100/100 cum Laude.

PUBLICATIONS

Scientific Productivity 71 publications (64 entries on Scopus, 73 co-authors according to Scopus)

- **International Journals:** Author/Co-author of **16 publications** in peer-reviewed international journals (4 as main contributor, 1 single-author), including **Journal of Machine Learning Research (3)**, **Machine Learning (3)**, **Journal of Artificial Intelligence Research (1 accepted)**, **Robotics and Autonomous Systems (1)**, **Expert Systems with Applications (1)**, **IEEE Transactions on Neural Networks and Learning Systems (1)**, **IEEE Transactions on Intelligent Transportation Systems (1)**, and **Data Mining and Knowledge Discovery (1)**.
 - According to Scimago Journal Rank (SJR):¹ **12 publications in Q1 journals** (of which 9 in “Artificial Intelligence” area and 3 in “Computer Science Applications” area).
 - According to CORE Journal Ranks:² **4 publications in A* journals** and 5 publications in A journals.

¹<https://www.scimagojr.com>

²<http://portal.core.edu.au/jnl-ranks>

- **International Conferences:** Author/Co-author of **55 publications** in peer-reviewed international conferences (14 as main contributor), including **ICML (16)**, **NeurIPS (13)**, **AAAI (7)**, **IJCAI (1)**, **AISTATS (4 + 2 accepted)**, **COLT (2)**, and **UAI (1)**.
 - According to GIL-GRIN-SCIE (GGS) Conference Rating:³ **37 publications in A++ venues** and 6 publications in A+ venues (Class 1).
 - According to CORE Conference Ranks:⁴ **39 papers in A*** venues and 6 papers in A venues.

Publication Impact	Google Scholar:	citations 1190	<i>h</i> -index 18	<i>i10</i> -index 23
(accessed on 16 March 2025)	Scopus:	citations 528	<i>h</i> -index 13	<i>i10</i> -index 16

TOP-12 PUBLICATIONS⁵

- [1] Filippo Fedeli, Alberto Maria Metelli, Francesco Trovò, and Marcello Restelli. “IWDA: Importance Weighting for Drift Adaptation in Streaming Supervised Learning Problems”. **IEEE Transactions on Neural Networks and Learning Systems**, 34(10):6813–6823, 2023. CORE 2020: **A***. SJR 2023: **Q1**.
(link: <https://doi.org/10.1109/TNNLS.2023.3265524>).
The paper introduces a novel approach to learning in non-stationary environments using importance weighting, marking a step toward automated machine learning. I designed the algorithmic solution, conducted the theoretical analysis, contributed to the experimental evaluation, and participated in the paper writing.
- [2] Alberto Maria Metelli, Guglielmo Manneschi, and Marcello Restelli. “Policy space identification in configurable environments”. **Machine Learning**, 111(6):2093–2145, 2022. CORE 2020: **A**. SJR 2022: **Q1**.
(link: <https://doi.org/10.1007/s10994-021-06033-3>).
The paper introduces the novel problem of “policy space identification”, a first approach for addressing it, and two application scenarios. I developed the problem formulation, designed the identification rules, conducted the theoretical analysis, performed the imitation learning experiments, and wrote the majority of the paper.
- [3] Alberto Maria Metelli, Matteo Pirotta, Daniele Calandriello, and Marcello Restelli. “Safe Policy Iteration: A Monotonically Improving Approximate Policy Iteration Approach”. **Journal of Machine Learning Research**, 22(97):1–83, 2021. CORE 2020: **A***. SJR 2021: **Q1**.
(link: <http://jmlr.org/papers/v22/19-707.html>).
The paper addresses approximate policy iteration by presenting the first convergence proof for safe policy iteration, introducing a novel algorithm, and providing new experimental evaluations. I developed the convergence proof, designed the algorithm, conducted the experimental evaluations, and wrote the paper.
- [4] Amarildo Likmeta, Alberto Maria Metelli, Giorgia Ramponi, Andrea Tirinzoni, Matteo Giuliani, and Marcello Restelli. “Dealing with multiple experts and non-stationarity in inverse reinforcement learning: an application to real-life problems”. **Machine Learning**, 110(9):2541–2576, 2021. CORE 2020: **A**. SJR 2021: **Q1**.
(link: <https://doi.org/10.1007/s10994-020-05939-8>).
The paper presents three significant real-world applications of inverse reinforcement learning, tackling two key methodological challenges: non-stationarity and multiple experts. I developed the approach for non-stationary experts, conducted the experiments in Section 7, and wrote the first three sections of the paper.
- [5] Alberto Maria Metelli, Matteo Papini, Nico Montali, and Marcello Restelli. “Importance Sampling Techniques for Policy Optimization”. **Journal of Machine Learning Research**, 21(141):1–75, 2020. CORE 2020: **A***. SJR 2020: **Q1**.
(link: <http://jmlr.org/papers/v21/20-124.html>).
This paper introduces novel techniques for variance reduction in off-policy learning using importance sampling, i.e., per-decision and multiple importance sampling. I developed the theoretical and algorithmic contributions in Sections 4 and 5, conducted the experiments in the action-based setting, and wrote the majority of the paper.
- [6] Amarildo Likmeta, Alberto Maria Metelli, Andrea Tirinzoni, Riccardo Giol, Marcello Restelli, and Danilo Romano. “Combining reinforcement learning with rule-based controllers for transparent and general decision-making in autonomous driving”. **Robotics and Autonomous Systems**, 131:103568, 2020. CORE 2020: **B**. SJR 2020: **Q1** (Computer Science Applications).
(link: <https://doi.org/10.1016/j.robot.2020.103568>).
This paper explores the application of reinforcement learning techniques to autonomous driving, with a primary focus on the interpretability of agent behavior. I contributed to the design of the environment (state and action spaces), the development of the rule-based policy, and the writing of the paper, particularly up to Section 7.

³<https://scie.lcc.uma.es/>

⁴<http://portal.core.edu.au/conf-ranks>

⁵The first author represents the main contributor; in the case of multiple main contributors (equal contribution), they are marked with *. Alphabetic order of authors is denoted with (α - β order). For both journal and conference publications, the rating is the most recent available in the year of publication. For Scimago Ranks (SJR), the “Artificial Intelligence” quartile is reported if no further specification. The complete list of publications is reported in the annex [List of Publications](#).

- [7] Alberto Maria Metelli, Filippo Lazzati, and Marcello Restelli. “Towards Theoretical Understanding of Inverse Reinforcement Learning”. In **International Conference on Machine Learning (ICML)**, volume 202, pages 24555–24591. PMLR, 2023. **Acceptance rate: 1827/6538 (27.9%), Oral: 156/6538 (2.39%)**. CORE 2023: **A***. GGS 2021: **A++**.
(link: <https://proceedings.mlr.press/v202/metelli23a.html>).
The paper presents the first comprehensive analysis of the inverse reinforcement learning problem, establishing a novel sample complexity lower bound. I developed the construction of the lower bound, derived it along with the other theoretical results, and wrote the majority of the paper.
- [8] Alberto Maria Metelli, Alessio Russo, and Marcello Restelli. “Subgaussian and Differentiable Importance Sampling for Off-Policy Evaluation and Learning”. In **Advances in Neural Information Processing Systems 34 (NeurIPS)**, pages 8119–8132. 2021. **Acceptance rate: 2344/9122 (25.7%), Spotlight: 260/9122 (2.9%)**. CORE 2021: **A***. GGS 2021: **A++**.
(link: <https://proceedings.neurips.cc/paper/2021/hash/4476b929e30dd0c4e8bdbcc82c6ba23a-Abstract.html>).
The paper proposes a novel correction for importance weighting, with desirable statistical and optimization properties, and tests it in the contextual bandit setting. I designed the correction, conducted its theoretical analysis (including the derivation of a concentration inequality), and wrote the majority of the paper.
- [9] Alberto Maria Metelli*, Amarildo Likmeta*, and Marcello Restelli. “Propagating Uncertainty in Reinforcement Learning via Wasserstein Barycenters”. In **Advances in Neural Information Processing Systems 32 (NeurIPS)**, pages 4335–4347, 2019. **Acceptance rate: 428/6743 (21.2%)**. CORE 2018: **A***. GGS 2018: **A++**.
(link: <https://papers.nips.cc/paper/8685-propagating-uncertainty-in-reinforcement-learning-via-wasserstein-barycenters>).
The paper presents a novel approach using distributions to represent and propagate uncertainty in value-based reinforcement learning. I conceived the idea of employing Wasserstein barycenters, conducted the convergence analysis, and wrote the majority of the paper.
- [10] Alberto Maria Metelli, Emanuele Ghelfi, and Marcello Restelli. “Reinforcement Learning in Configurable Continuous Environments”. In **International Conference on Machine Learning (ICML)**, volume 97, pages 4546–4555. PMLR, 2019. **Acceptance rate: 773/3424 (22.6%)**. CORE 2018: **A***. GGS 2018: **A++**.
(link: <http://proceedings.mlr.press/v97/metelli19a.html>).
The paper presents and analyzes a new algorithm for learning in configurable environments with continuous state-action spaces. I devised the algorithm, provided the theoretical analysis, performed the experiment on the TORCS simulator, and wrote the majority of the paper.
- [11] Alberto Maria Metelli*, Mirco Mutti*, and Marcello Restelli. “Configurable Markov Decision Processes”. In **International Conference on Machine Learning (ICML)**, volume 80, pages 3488–3497, 2018. **Acceptance rate: 618/2473 (25.0%)**. CORE 2018: **A***. GGS 2018: **A++**.
(link: <http://proceedings.mlr.press/v80/metelli18a.html>).
This paper introduces the concept of environment configuration in reinforcement learning by proposing the novel framework of configurable Markov decision processes. I formulated the framework, developed the learning algorithm, conducted the racetrack experiment, and contributed to the writing of the paper.
- [12] Alberto Maria Metelli, Matteo Pirota, and Marcello Restelli. “Compatible Reward Inverse Reinforcement Learning”. In **Advances in Neural Information Processing Systems 30 (NIPS)**, pages 2047–2056, 2017. **Acceptance rate: 678/3240 (20.9%)**. CORE 2017: **A***. GGS 2017: **A++**.
(link: <http://papers.nips.cc/paper/6800-compatible-reward-inverse-reinforcement-learning>).
The paper presents a novel approach to constructing a feature space for inverse reinforcement learning. I developed the underlying idea for feature construction, designed the reward selection approach, conducted the full experimental evaluation, and wrote the majority of the paper.

FELLOWSHIPS, AWARDS, AND RECOGNITIONS

PERSONAL RESEARCH AWARDS AND RECOGNITIONS

AAAI 2024 - New Faculty Highlights

December 2023

Association for the Advancement of Artificial Intelligence (AAAI)

Description: Invited speaker program at AAAI conference (GGS: A++) highlighting AI researchers who have just begun careers as new faculty members or the equivalent in industry.

(link: <https://aaai.org/aaai-conference/nfh-24-program/>)

DAAD AInet Fellowship - Postdoc-NeT-AI on Human-centered AI

October 2023

German Academic Exchange Service (DAAD)

Description: Fellowship granted to excellent early-career researchers to meet the German AI research community.

(link: <https://www.daad.de/en/the-daad/postdocnet/fellows/fellows/>)

Publication of the Ph.D. Thesis as Book

June 2022

European Association for Artificial Intelligence (EurAI)

Description: Publication of the Ph.D. thesis in the “Dissertation in AI” series “Frontiers in Artificial Intelligence and Applications” as a recognition for the outstanding theses participating in the EurAI “Dissertation Award”.

(link: <https://www.iospress.com/catalog/books/exploiting-environment-configurability-in-reinforcement-learning>)

Winner of “Premio NeoDottori di Ricerca Marco Cadoli 2021”

November 2021

Associazione Italiana per l'Intelligenza Artificiale (AIXIA)

Description: Award for the best Italian Ph.D. thesis in Artificial Intelligence (public selection). Amount: 1000€.

(link: <https://aixia.it/premi/premio-per-neodottori-di-ricerca-marco-cadoli-annuale/>)

Recipient of a “Springer Award”

April 2021

IT PhD Board of Professors, Politecnico di Milano

Description: Publication in a Polimi SpringerBriefs volume, for the best results from the IT PhD program doctors.

(link: <https://link.springer.com/book/10.1007/978-3-030-85918-3>)

Winner of “Premio NeoLaureati Leonardo Lesmo 2018”

October 2018

Associazione Italiana per l'Intelligenza Artificiale (AIXIA)

Description: Award for the best Italian M.Sc. thesis in Artificial Intelligence (public selection). Amount: 500€.

(link: <https://aixia.it/premi/premio-per-neolaureati-leonardo-lesmo-annuale/>)

GRANTS

5k€ Google Cloud Platform Credits - Gemma Academic Program

May 2024

Google Cloud

Description: Google Cloud credits supporting research in reinforcement learning and large language models.

6.6k€ Google Cloud Education Credits

February 2024

Google Cloud

Description: Google Cloud credits as a support for the Ph.D. course “Reinforcement Learning”.

80k CINECA GPU hours

October 2023

CINECA Supercomputing Centre

Description: Support for development of efficient policy gradient algorithms for large-scale industrial plants.

CONFERENCE AWARDS AND RECOGNITIONS

Two Spotlight Papers at ICML 2024 (top 3.5%)

July 2024

International Conference on Machine Learning 2024, Vienna, Austria

Description: Best 235 papers out of 9473 submissions (top 3.5%) to ICML 2024 (GGS: **A++**) for the papers “Learning Optimal Deterministic Policies with Stochastic Policy Gradients” [C14] and “Best Arm Identification for Stochastic Rising Bandits” [C18].

Oral Presentation at ICML 2023 (top 2.39%)

July 2023

International Conference on Machine Learning 2023, Honolulu, HI, US

Description: Best 156 papers out of 6538 submissions (top 2.39%) to ICML 2023 (GGS: **A++**) for the paper “Towards Theoretical Understanding of Reinforcement Learning” [C29].

Notable Paper at AISTATS 2023 (top 1.9%)

April 2023

International Conference on Artificial Intelligence and Statistics 2023, Valencia, Spain

Description: Best 32 papers out of 1689 submissions (top 1.9%) to AISTATS 2023 (GGS: **A+**) for the paper “A Tale of Sampling and Estimation in Discounted Reinforcement Learning” [C32].

Spotlight Presentation at NeurIPS 2021 (top 2.9%)

December 2021

Neural Information Processing Systems 2021, Online

Description: Best 260 papers out of 9122 submissions (top 2.9%) to NeurIPS 2021 (GGS: **A++**) for the paper “Subgaussian and Differentiable Importance Sampling for Off-Policy Evaluation and Learning” [C42].

Oral Presentation at NeurIPS 2018 (top 0.62%)

December 2018

Neural Information Processing Systems 2018, Montreal, Canada

Description: Best 30 papers out of 4856 submissions (top 0.62%) to NeurIPS 2018 (GGS: **A++**) for the paper “Policy Optimization via Importance Sampling” [C53].

STUDENT AWARDS AND RECOGNITIONS

Winner of a Ph.D. Scholarship

July 2017

Ministero dell'Istruzione, dell'Università e della Ricerca (MIUR)

Description: Ranked first among 50 applicants of Politecnico di Milano in Computer Science and Engineering area.

Recipient of a “Le migliori matricole dell’A.A. 2012/2013” award

May 2014

Politecnico di Milano

Description: Awarded for the best freshmen students of Politecnico di Milano.

B.Sc. and M.Sc. Student Scholarships

2012-2017

Politecnico di Milano

Description: Full reduction of student tuition fees for merit GPA > 29/30 (each eligible year).

Enrollment to the “Albo Nazionale delle Eccellenze”

2012

Istituto Nazionale di Documentazione Innovazione e Ricerca Educativa (INDIRE)

Description: National register of the best among the Italian high-school graduates.

(link: <https://www.indire.it/eccellenze/>)

COMPETITIONS

Runner-Up (Best Academic Team) at ACM RecSys Challenge 2017

July 2017

Association for Computing Machinery (ACM)

Description: Recommender systems challenge with a team of 8 students from Politecnico di Milano. Amount: 1500€.

(link: <http://www.recsyschallenge.com/2017/>)

Winner of “Migliori Elaborati 2011-2012”

June 2012

IISS Ettore Majorana

Description: Best project award for the developing of a database system to manage remedial courses.

Winner of a Bronze medal at “Olimpiadi Italiane di Informatica 2011”

October 2011

Associazione Italiana per l’Informatica ed il Calcolo Automatico (AICA)

Description: Italian Olympiad in Informatics, ranked 24th.

(link: <https://www.olimpiadi-informatica.it/index.php/olimpiadi-italiane-2010-2011.html>)

REVIEWING SERVICE RECOGNITIONS

He has been recognized for the reviewing service for international conferences: NeurIPS 2019 (top 50%), ICML 2020 (top 33%), AAAI 2021 (top 25%), ICLR 2021 (outstanding reviewer), AISTATS 2022 (top 10%), NeurIPS 2023 (top reviewer).

INTERNATIONAL CONFERENCE GRANTS

He has been awarded travel/accommodation/registration support for international conference participation, granted by conference organizers via conference sponsor: NIPS 2017 (Long Beach, CA, US), ICML 2018 (Stockholm, Sweden), NeurIPS 2018 (Montreal, Canada), ICML 2019 (Long Beach, CA, US), NeurIPS 2019 (Vancouver, Canada), ICML 2022 (Baltimore, MD, US), NeurIPS 2023 (New Orleans, LA, US), ICML 2024 (Vienna, Austria), NeurIPS 2024 (Vancouver, Canada).

TEACHING ACTIVITY⁶

PRIMARY RESPONSIBILITY TEACHING ACTIVITIES

Lecturer and coordinator of Computer Science

2023-2025

Politecnico di Milano

Milan, Italy

6 CFU - B.Sc. in Civil Engineering - Campus Leonardo - II semester. Avg no. of students: ~100.

a.y. 2023-2024 (36 hours), a.y. 2024-2025 (36 hours).

Lecturer and co-coordinator of Reinforcement Learning

2021-2022, 2023-2024

Politecnico di Milano

Milan, Italy

5 CFU - Ph.D. in Information Technology - Campus Leonardo. Avg no. of students: ~80. Co-coordinator: Prof.

Marcello Restelli.

a.y. 2021-2022 (15 hours, corresponding to 3 CFU), a.y. 2023-2024 (15 hours, corresponding to 3 CFU).

Lecturer of Deep Reinforcement Learning

2021-2022

GSSI - Gran Sasso Science Institute

Online

Ph.D. in Computer Science. Avg no. of students: ~10.

a.y. 2021-2022 (2 hours).

⁶Total 104 hours of teaching and 402 hours of teaching assistance.

TEACHING ASSISTANCE ACTIVITIES

Teaching Assistant of Machine Learning

Politecnico di Milano

*2021-2025
Milan, Italy*

5 CFU - M.Sc. Computer Science and Engineering and M.Sc. Mathematical Engineering - Campus Leonardo - II semester. Avg no. of students: ~100. Lecturer: Prof. Daniele Loiacono.
a.y. 2021-2022 (10 hours), a.y. 2022-2023 (20 hours), a.y. 2023-2024 (20 hours), a.y. 2024-2025 (20 hours).

Teaching Assistant of Foundations of Artificial Intelligence

Politecnico di Milano

*2021-2025
Milan, Italy*

5 CFU - B.Sc. and M.Sc. Computer Science and Engineering - Campus Leonardo - I semester. Avg no. of students: ~80+80. Lecturers: Proff. Francesco Amigoni and Pier Luca Lanzi.
a.y. 2021-2022 (10+10 hours), a.y. 2022-2023 (16+16 hours), a.y. 2023-2024 (8+6 hours), a.y. 2024-2025 (8+6 hours).

Teaching Assistant of Computer Science (Informatica)

Politecnico di Milano

*2018-2023
Milan, Italy*

8 CFU - B.Sc. in Environmental and Land Planning Engineering - Campus Leonardo - I semester. Average no. of students: ~150. Lecturer: Prof. Andrea Bonarini.
a.y. 2018-2019 (24 hours), a.y. 2019-2020 (24 hours), a.y. 2020-2021 (30 hours), a.y. 2021-2022 (30 hours), a.y. 2022-2023 (24 hours).

Laboratory Teaching Assistant of Computer Science (Informatica)

Politecnico di Milano

*2018-2021
Milan, Italy*

8 CFU - B.Sc. in Environmental and Land Planning Engineering - Campus Leonardo - I semester. Avg no. of students: ~150. Lecturer: Prof. Andrea Bonarini.
a.y. 2018-2019 (20 hours), a.y. 2019-2020 (20 hours), a.y. 2020-2021 (20 hours).

Laboratory Teaching Assistant of Computer Science A (Informatica A)

Politecnico di Milano

*2017-2018
Milan, Italy*

10 CFU - B.Sc. in Management Engineering - Campus Bovisa - I semester. Avg no. of students: ~80. Lecturer: Prof. Florian Daniel.
a.y. 2017-2018 (36 hours).

Academic Tutor

Cefriel S.c.a.r.l.

*2020
Milan, Italy*

Supervision of a student for the project of the Master CEFRIEL on AI&ML (24 hours).

TEACHING ACTIVITY FOR PROFESSIONAL AUDIENCE

Lecturer

EIT Digital Summer School - AI4Sustainability

*September 2024
Milan, Italy*

Avg no. of students: ~40. 2 hours.

Lecturer and co-coordinator

ENI Summer School - Reinforcement Learning and Online Learning

*November 2024
San Donato Milanese, Italy*

Avg no. of students: ~10. 13.5 hours. Co-coordinator: Matteo Papini.

COMMITTEES

EXAMINATION COMMITTEES

President of the Ph.D. Final Examination Committee

Ph.D. in Information Technology - Politecnico di Milano

*April 2023
Milan, Italy*

Candidate: Dr. Giulia Romano. Thesis: "Pricing and advertising strategies in e-commerce scenarios"

PhD Committee: Proff. Alberto Maria Metelli, Ioannis Caragiannis (Aarhus University, Denmark), Negin Golrezaei (MIT Sloan School of Management, Cambridge, Massachusetts, US).

SELECTION COMMITTEES

Member of the Public Selection Committee for Research Fellowships

(Assegni di Ricerca) - *DEIB - Politecnico di Milano*

*May 2023-
Milan, Italy*

"Development of adaptive reinforcement learning algorithms for control of industrial plants" (president, May 2023)

"Development of reinforcement learning techniques for Industry 4.0" (member, June 2023)

"Development of reinforcement learning techniques for Industry 4.0" (member, October 2023)

"Development of reinforcement learning techniques for Real-World Applications" (member, January 2024)

“Development of Reinforcement Learning Algorithms for Behavior Recommendation” (member, September 2024)
“Developing Machine Learning Algorithm to Predict Immunotherapy Effectiveness in Non-small Cell Lung Cancer” (member, November 2024)

Member of the Public Selection Committee for Research Support Activities
(Attività di Supporto alla Ricerca) - *DEIB - Politecnico di Milano*
“Distributed Reinforcement Learning for Industrial Production Systems” (member, June 2023)

*June 2023-
Milan, Italy*

PROJECTS⁷

COMPETITIVE RESEARCH PROJECTS

HUmLrn (Unified Learning from Diverse Human Feedback)

to start

FIS2 (Fondo Italiano per la Scienza) - Starting Grant

Role: **Coordinator and principal investigator**.

Topic: Integrating human feedback in reinforcement learning approaches. Funding institution: MUR. Budget: 1.325M€ (to Politecnico di Milano). Duration: 36 months.

AI4REALNET (AI for REAL-world NETwork operation)

October 2023-March 2027

HORIZON EUROPE

Role: **Co-principal investigator** of the local research unit and **WP co-leader** (with Prof. Marcello Restelli).

Topic: Reinforcement learning for operating complex real-world network infrastructures.

Project coordinator: INESC TEC, Porto, Portugal. Funding institution: European Union. Budget: 4M€ (456k€ to Politecnico di Milano). Duration: 42 months.

iBeCHANGE

December 2023-November 2028

HORIZON RIA

Role: Research scientist and **deliverables review board member**.

Topic: Develop the iBeChange platform for personalizing cancer prevention.

Project coordinator: Istituto Europeo Di Oncologia Srl (IEO), Milan, Italy. Local co-principal investigators: Proff. Francesco Trovò, Emilia Ambrosini. Funding institution: European Union. Budget: 5.9M€ (644k€ to Politecnico di Milano). Duration: 60 months.

FAIR (Future Artificial Intelligence Research)

November 2022-October 2025

Extended Partnership - National Recovery and Resilience Plan (PNRR)

Role: Research scientist and **data management plan responsible** of the spoke.

Topic: Artificial intelligence: foundational aspects - Spoke 4: Adaptive AI.

Spoke coordinator: Politecnico di Milano (Prof. Nicola Gatti). Funding institution: Italian Ministry of University and Research (MUR). Budget: 12M€ (6M€ to Politecnico di Milano). Duration: 36 months.

CLINT (CLimate INTelligence)

July 2021-June 2025

HORIZON 2020

Role: Research scientist.

Topic: Extreme events detection, attribution and adaptation using machine learning.

Project coordinator: Politecnico di Milano (Prof. Andrea Castelletti). Funding institution: European Union. Budget: 6M€ (1.1M€ to Politecnico di Milano). Duration: 48 months.

COMPETITIVE RESEARCH PROJECTS FOR COMPUTATIONAL TIME

PGCLaSI - Policy Gradients for Control of Large-Scale Industrial Plants

October 2023-July 2024

CINECA Supercomputing Centre - Class C Project

Role: Principal Investigator.

Topic: Development of efficient policy gradient algorithms for large-scale industrial plants.

Grant: 80k GPU hours.

INDUSTRY-FUNDED RESEARCH PROJECTS

A2A S.p.a.

to start

Sviluppo di strategie automatiche di trading per il mercato dell'energia basate su Reinforcement Learning

Role: **Coordinator and Principal investigator** (with Proff. Marcello Restelli and Matteo Papini). Budget: 85k€ + VAT.

MADE S.c.a.r.l.

July 2024-July 2025

⁷Total fundraising from public institutions: $\approx 1.8\text{M€}$. Total fundraising from private companies: $\approx 240\text{k€}$.

CC Auto Tune: ottimizzazione automatica dei parametri del Performance Controller per Compressori Centrifughi (partnership with - Nuovo Pignone Tecnologie S.r.l. (Baker Hughes group))

Role: **Coordinator and Principal investigator** (with Proff. Matteo Papini and Marcello Restelli). Budget: 80k€ + VAT.

Nuovo Pignone Tecnologie S.r.l. (Baker Hughes group)

April 2023-January 2024

Development of reinforcement learning algorithms for the control of industrial compressors

Role: **Coordinator and Principal investigator** (with Prof. Marcello Restelli). Budget: 62k€ + VAT.

ML cube S.r.l.

December 2020-December 2022

Life-Cycle-Management and Optimization of Machine learning algorithms in real-time biddings

Role: Research scientist.

Co-principal investigators: Proff. Marcello Restelli, Nicola Gatti, Francesco Trovò. Budget: 84k€ + VAT.

Nuovo Pignone Tecnologie S.r.l. (Baker Hughes group)

October 2021-June 2022

PID controller tuning using Reinforcement Learning

Role: Research scientist.

Principal investigator: Prof. Marcello Restelli. Budget: 40k€ + VAT.

Leonardo S.p.A.

May 2021-

Machine Learning per l'Autonomia dei Velivoli

Role: Research scientist.

Co-principal investigators: Proff. Marcello Restelli and Nicola Gatti. Budget: 250k€ + VAT.

Ferrari S.p.A.

December 2020-January 2021

Reinforcement Learning Techniques for Developing Artificial Test Drivers on a F1 Simulator

Role: Research scientist.

Principal Investigator: Prof. Marcello Restelli. Budget: 80k€ + VAT.

Magneti Marelli S.p.A.

March 2019-February 2020

Decision Making based on Reinforcement Learning for Automated Driving (2nd project)

Role: Research scientist. Principal investigator: Prof. Marcello Restelli. Budget: 60 k€ + VAT. Reference

Publications: [W26, J15].

Magneti Marelli S.p.A.

March 2018-February 2019

Decision Making based on Reinforcement Learning for Automated Driving (1st project)

Role: Research scientist. Principal investigator: Prof. Marcello Restelli. Budget: 56k€ + VAT.

INDUSTRY-FUNDED TEACHING-RELATED PROJECTS

ENI S.p.a.

November 2024

Reinforcement Learning and Online Learning

Role: **Coordinator and lecturer** (with Prof. Matteo Papini). Budget: 16.9k€ + VAT.

STUDENT SUPERVISION

He is currently **advising** (relatore) **4 Ph.D. students**:

1. **Filippo Lazzati**, "Provably Efficient Algorithms for Reward Learning", Ph.D. in Information Technology (Cycle: XXXIX), DEIB, Politecnico di Milano.
2. **Alessandro Montenegro**, "Policy-based Methods for Realistic Reinforcement Learning Applications", Ph.D. in Information Technology (Cycle: XXXIX), DEIB, Politecnico di Milano. Co-advisors: Matteo Papini, Marcello Restelli.
3. **Simone Drago**, "Preference-based Reinforcement Learning", Ph.D. in Information Technology (Cycle: XL), DEIB, Politecnico di Milano. Co-advisor: Marcello Restelli.
4. **Federico Corso**, "Stability in Reinforcement Learning", Ph.D. in Information Technology (Cycle: XL), DEIB, Politecnico di Milano. Co-advisor: Marco Mussi, Marcello Restelli.

He **co-supervised 1 concluded Ph.D. thesis** in Computer Science and Engineering at Politecnico di Milano and he is currently **co-supervising 11 Ph.D. students** mostly of the Information Technology programme at Politecnico di Milano.

He **advised** (relatore) **6 M.Sc. theses** and **co-advised** (correlatore) **38 concluded M.Sc. theses** mostly in Computer Science and Engineering at Politecnico di Milano and he is currently **(co-)supervising 12 M.Sc.**

students at Politecnico di Milano. Among them, 4 students were admitted to the **Honours Programme of Politecnico di Milano** and 1 student won the “**Premio NeoLaureati Leonardo Lesmo 2019**” and 1 student was awarded a special mention in the context of the “**Premio NeoLaureati Leonardo Lesmo 2024**” for the best Italian M.Sc. thesis in artificial intelligence (AIxIA).

He is the **research manager** (responsabile) of **2 research fellowships** (assegni di ricerca) (1 concluded and 1 ongoing) at DEIB Politecnico di Milano.

TECHNOLOGY TRANSFER

START-UPS AND SPIN-OFFS

Co-founder of ML Cube S.r.l.

November 2020

Accredited spin-off of Politecnico di Milano

Innovative start-up providing cutting-edge solutions for machine learning systems and life-cycle management optimization. (link: <https://www.mlcube.com>)

Nominated by Fortune Italia as one of the **top 20 Italian AI start-ups** in 2022.

Funding: “**Smart & Start Italia**” granted by Ministero dello Sviluppo Economico (MiSE) to innovative start-ups (~323 k€).

OPEN-SOURCE TOOLS

ARLO (Automated Reinforcement Learning Optimizer)

July 2021-

Description: Open-source Python library for Automated Reinforcement Learning (AutoRL), aimed at making RL accessible by non-expert users automatizing the development of a learning pipeline. Project status: First released in April 2022, still in development. Role: Research scientist. (github: <https://github.com/arlo-lib/ARLO>, doc: <https://arlo-lib.github.io/arlo-lib/index.html>)

DEVELOPMENT OF PRODUCTS

ML Cube Platform

November 2020-

Description: B2B innovative Machine Learning product for Life-cycle Management real-time Optimization, aimed at preventing model obsolescence and providing automatic diagnosis and retraining of the models in production.

Project status: In production. Role: Research scientist. (link: <https://www.mlcube.com/mlcube-platform>)

AD Cube Platform

December 2021-

Description: AI platform for the optimization of multi-channel advertising campaigns. Project status: In production. Role: Research scientist. (link: <https://adcube.ai/>)

Funding: Winner of **ELISE's 2nd Open Call grants** (link: <https://www.elise-ai.eu/events/elise-s-2nd-open-call-grants-funding-to-16-smes-to-develop-ai-based-services-or-applications>)

PROFESSIONAL EXPERIENCE

AI Specialist

December 2024

ML Cube S.r.l.

Milan, Italy

Activity: Development AI approaches for trajectory planning.

Freelance consultant

February 2023

Private client

Milan, Italy

Activity: Feasibility study about the use of artificial intelligence techniques for transportation management systems.

Freelance developer

March 2012-June 2012

IISS Ettore Majorana

Seriate (Bg), Italy

Activity: Design and implementation of a database system for organization and scheduling of remedial courses.

Intern developer

June 2011-July 2011 and January 2012-February 2012

Poligrafica s.r.l.

Dalmine (Bg), Italy

Activity: Design and implementation of a mobile application (Android) for building and printing flyers.

TALKS, SEMINARS, AND PRESENTATIONS

INVITED TALKS AND SEMINARS

Invited Talk

February 2025 (to happen)

RL Workshop at Mannheim

Mannheim, Germany

Title: “Importance Weighting in Reinforcement Learning”

Invited Talk*Universitat Pompeu Fabra (UPF)*

Title: “Rising Bandits: Recent Advancements and Open Challenges”

*September 2024
Barcelona, Spain***Webinar***AI4REALNET Project Dissemination*

Title: “Distributed and Hierarchical Reinforcement Learning”

*April 2024
Online***Invited Talk***38th AAAI Conference on Artificial Intelligence - New Faculty Highlights*

GGS: A++. Title: “Recent Advancements in Inverse Reinforcement Learning”

*February 2024
Vancouver, Canada (recorded)***Invited Talk***1st Symposium on Lifelong Explainable Robot Learning (SYMPLER)*

Title: “Explaining Human Intentions through Inverse Reinforcement Learning”

*December 2023
Nürnberg, Germany (delivered online)***Invited Seminar***AI Seminars - Politecnico di Milano*

Title: “Inverse reinforcement learning: a theoretical view”.

*May 2023
Milan, Italy***Invited Talk***ELLIS@Milan Artificial Intelligence Workshop - Bocconi University*

Title: “Online Learning in Non-Cooperative Configurable Environments”.

*September 2022
Milan, Italy***Invited Seminar***Università del Piemonte Orientale*

Title: “Stream Learning in Non-Stationary Environments”.

*May 2022
Alessandria, Italy***Invited Talk***20th International Conference of the Italian Association for Artificial Intelligence (AIIA 2021)*

Title: “Exploiting Environment Configurability in Reinforcement Learning”.

*December 2021
Online***Invited Seminar***ML Modena Meetup*

Title: “From MAB to RL... and beyond!” (with Francesco Trovò).

*January 2021
Online***Invited Talk***17th International Conference of the Italian Association for Artificial Intelligence (AIIA 2018)*

Title: “Compatible Reward Inverse Reinforcement Learning”.

*November 2018
Trento, Italy***Seminar***Politecnico di Milano - Dipartimento di Elettronica, Informazione e Bioingegneria*

Title: “Distributional Reinforcement Learning”.

*November 2017
Milan, Italy***INTERNATIONAL CONFERENCE AND WORKSHOP TALKS****Conference Talk***The Fortieth International Conference on Machine Learning (ICML 2023)*

GGS: A++. Title: “Towards Theoretical Understanding of Inverse Reinforcement Learning”.

*July 2023
Honolulu, HI, US***Conference Talk***The 26th International Conference on Artificial Intelligence and Statistics (AISTATS 2023)*

GGS: A+. Title: “A Tale of Sampling and Estimation in Discounted Reinforcement Learning”.

*April 2023
Valencia, Spain***Conference Talk***Thirty-ninth International Conference on Machine Learning (ICML 2022)*

GGS: A++. Title: “Stochastic Rising Bandits”.

*July 2022
Baltimore, MD, US***Spotlight Conference Talk***Thirty-fifth Conference on Neural Information Processing Systems (NeurIPS 2021)*

GGS: A++. Title: “Subgaussian and Differentiable Importance Sampling for Off-Policy Evaluation and Learning”.

*December 2021
Online***Workshop Talk***Deep Reinforcement Learning Workshop - NeurIPS 2021*

Title: “Policy Optimization via Optimal Policy Evaluation”.

*December 2021
Online***Conference Talk***European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML-PKDD 2021)**September 2021
Online*

GGs: A. Title: “Policy Space Identification in Configurable Environments”.

Conference Talk

Thirty-eighth International Conference on Machine Learning (ICML 2021)

*July 2021
Online*

GGs: A++. Title: “Provably Efficient Learning of Transferable Rewards”.

Conference Talk

35th AAAI Conference on Artificial Intelligence (AAAI 2021)

*February 2021
Online*

GGs: A++. Title: “Policy Optimization as Online Learning with Mediator Feedback”.

Conference Talk

Thirty-seventh International Conference on Machine Learning (ICML 2020)

*July 2020
Online*

GGs: A++. Title: “Control Frequency Adaptation via Action Persistence in Batch Reinforcement Learning”.

Short Conference Talk

Thirty-sixth International Conference on Machine Learning (ICML 2019)

*June 2019
Long Beach, CA, US*

GGs: A++. Title: “Reinforcement Learning in Configurable Continuous Environments”.

Long Conference Talk

Thirty-fifth International Conference on Machine Learning (ICML 2018)

*July 2018
Stockholm, Sweden*

GGs: A++. Title: “Configurable Markov Decision Processes”.

POSTER PRESENTATION AT INTERNATIONAL CONFERENCES AND WORKSHOPS

He presented his contributions in several international conferences and workshops: NeurIPS 2024 (5 posters - Vancouver, Canada), ICML 2024 (6 posters - Vienna, Austria - to happen), AISTATS 2024 (2 posters - Valencia, Spain), EWRL 2023 (7 posters - Bruxelles, Belgium), ICML 2023 (3 posters - Honolulu, HI, US), AISTATS 2023 (1 poster - Valencia, Spain), ICML 2022 (2 posters - Baltimore, MD, US), NeurIPS 2021 (2 posters - Online), ICML 2021 (1 poster - Online), AAAI 2021 (1 poster - Online), NeurIPS 2019 (1 poster - Vancouver, Canada), ICML 2019 (2 posters - Long Beach, CA, US), NeurIPS 2018 (1 poster - Montreal, Canada), EWRL 2018 (1 poster - Lille, France), ICML 2018 (1 poster - Stockholm, Sweden), NIPS 2017 (1 poster - Long Beach, CA, US).

ACTIVITIES AND SERVICES⁸

REFeree ACTIVITIES

Member of REPRIS

Register of Expert Peer Reviewers for Italian Scientific Evaluation - MUR

October 2023-

Expert Reviewer for the Israel Science Foundation

Reviewer for the “Personal Research Grant”

April 2024

PH.D. THESIS REVIEWER

Ph.D. Thesis Reviewer

PhD Program in Engineering in Computer Science - Sapienza University of Rome

Candidate: Roberto Cipollone. Advisor: Prof. Giuseppe De Giacomo. Thesis: “Markov Representations: Learning in MDP Abstractions and Non-Markovian Environments”

April 2023

EDITORIAL ACTIVITIES

Associate Editor

IEEE Robotics and Automation Letters (RA-L) - SJR: Q1

April 2023-

Academic Editor

PLOS ONE - SJR: Q1 (Multidisciplinary)

July 2024-

Action Editor

Transactions of Machine Learning Research (TMLR)

November 2024-

⁸For both journal and conference publications, the rating is the most recent available. For Scimago Ranks (SJR), the “Artificial Intelligence” quartile is reported if no further specification.

Publication Chair

41st Conference on Uncertainty in Artificial Intelligence (UAI)
(link: https://www.auai.org/uai2025/organizing_committee)

July 2025 (to happen)
Rio De Janeiro, Brazil

Mentor

Women in Machine Learning Workshop (WIML) @ NeurIPS 2024
(link: <https://sites.google.com/wimlworkshop.org/wiml-2024/program>)

December 2024
Vancouver, BC, Canada

Organizer

Aligning Reinforcement Learning Experimentalists and Theorists (ARLET) @ ICML 2024
#Submitted papers: ~120, Attendance: ~200
(link: <https://arlet-workshop.github.io/>)

July 2024
Vienna, Austria

Session Chair

International Conference on Machine Learning (ICML) - GGS: A++
Responsibilities: Chairing a Reinforcement Learning session (4 paper presentations).

July 2024
Vienna, Austria

Program Chair and Organizer

15th European Workshop on Reinforcement Learning (EWRL 2022)
#Submitted papers: ~100, Attendance: ~150
(link: <https://ewrl.wordpress.com/ewrl15-2022/>)

September 2022
Milan, Italy

Session Chair

European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases 2021 (ECML-PKDD) - GGS: A
Responsibilities: Chairing a Reinforcement Learning session (4 paper presentations).

September 2021
Online

AREA CHAIR - (SENIOR) PROGRAM COMMITTEE MEMBER - REVIEWER FOR INTERNATIONAL CONFERENCES

Area Chair

International Conference on Machine Learning (ICML) - GGS: A++

2024-2025

Area Chair

Neural Information Processing Systems (NeurIPS) - GGS: A++

2024

Area Chair

International Conference on Artificial Intelligence and Statistics (AISTATS) - GGS: A+

2025

Senior Reviewer

Reinforcement Learning Conference (RLC)

2024

Senior Program Committee member

International Joint Conference on Artificial Intelligence (IJCAI) - GGS: A++

2021

Senior Program Committee member

AAAI Conference on Artificial Intelligence (AAAI) - GGS: A++

2022, 2025

Program Committee member

International Joint Conference on Artificial Intelligence (IJCAI) - GGS: A++

2020, 2022

Reviewer

International Conference on Machine Learning (ICML) - GGS: A++

2019-2023

Reviewer

Neural Information Processing Systems (NeurIPS) - GGS: A++

2019-2023

Program Committee member

European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML-PKDD) - GGS: A

2020-2021, 2023

Program Committee member

AAAI Conference on Artificial Intelligence (AAAI) - GGS: A++

2020-2021, 2024

Reviewer

International Conference on Artificial Intelligence and Statistics (AISTATS) - GGS: A+

2020-2022

Reviewer

2021-2024

International Conference on Learning Representations (ICLR) - GGS: A++

REVIEWER FOR INTERNATIONAL WORKSHOPS

Reviewer <i>European Workshop on Reinforcement Learning (EWRL 2024)</i>	2024
Reviewer <i>Decision Awareness in Reinforcement Learning Workshop @ ICML 2022 (DARL 2022)</i>	2022
Reviewer <i>Reinforcement Learning for Real Life Workshop @ ICML 2021</i>	2021

REVIEWER FOR INTERNATIONAL JOURNALS

Reviewer <i>ACM Computing Surveys</i> - SJR: Q1 (Computer Science (miscellaneous))	2024
Reviewer <i>Scientific Report (Nature)</i> - SJR: Q1 (Multidisciplinary)	2023
Reviewer <i>PLOS ONE</i> - SJR: Q1 (Multidisciplinary)	2023
Reviewer <i>Expert Systems with Applications (ESWA)</i> - SJR: Q1	2023
Reviewer <i>IEEE Transactions on Artificial Intelligence (TAI)</i> - SJR: Q1	2023
Reviewer <i>IEEE Robotics and Automation Letters (RA-L)</i> - SJR: Q1	2023
Reviewer <i>IEEE Transactions on Neural Networks and Learning Systems (TNNLS)</i> - SJR: Q1	2023
Reviewer <i>Journal of Machine Learning Research (JMLR)</i> - SJR: Q1	2022, 2024
Reviewer <i>Transactions on Machine Learning Research (TMLR)</i>	2022-2024
Reviewer <i>Engineering Applications of Artificial Intelligence (EAAI)</i> - SJR: Q1	2022
Reviewer <i>Entropy (MDPI)</i> - SJR: Q2 (Information Systems)	2022
Reviewer <i>Frontiers in Artificial Intelligence</i> - SJR: Q2	2021
Reviewer <i>Intelligenza Artificiale</i> - SJR: Q3	2021
Reviewer <i>IEEE Transactions on Intelligent Transportation Systems (ITS)</i> - SJR: Q1 (Computer Science Applications)	2021
Reviewer <i>Journal of Artificial Intelligence Research (JAIR)</i> - SJR: Q1	2019, 2022
Reviewer <i>Machine Learning (Springer)</i> - SJR: Q1	2019
Reviewer <i>IEEE Transactions on Cognitive and Developmental Systems (TCDS)</i> - SJR: Q1	2018

MEMBERSHIPS OF SCIENTIFIC SOCIETIES

ELLIS Society Member <i>European Laboratory for Learning and Intelligent Systems</i>	2021-
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CLAIRE Supporter

Confederation of Laboratories for Artificial Intelligence Research in Europe

2023-

AAAI Member

Association for the Advancement of Artificial Intelligence

2020-

AIxIA Member

Associazione Italiana per l'Intelligenza Artificiale

2018-2022

LIST OF PUBLICATIONS⁹

BOOKS

- [B1] Alberto Maria Metelli. *Exploiting environment configurability in reinforcement learning*, volume 361 of *Frontiers in Artificial Intelligence and Applications*. IOS Press, 2022.
(link: <https://doi.org/10.3233/FAIA361>).
- [B2] Alberto Maria Metelli and Francesco Trovò. *The machine learning gym. Train and test your skills*. McGraw-Hill Education, 2024.
(link: <https://www.mheducation.it/the-machine-learning-gym-9788838612428-italy>).

BOOK CHAPTERS

- [H1] Alberto Maria Metelli. “Configurable Environments in Reinforcement Learning: An Overview”. In **Special Topics in Information Technology**, pages 101–113, Cham, 2022. Springer International Publishing.
(link: https://doi.org/10.1007/978-3-030-85918-3_9).

REFEREED INTERNATIONAL JOURNAL ARTICLES

- [J1] Marco Mussi and Alberto Maria Metelli. “Generalizing the Regret: an Analysis of Lower and Upper Bounds”. **Journal of Artificial Intelligence Research**, 81, 2025. CORE 2020: **A**. SJR 2023: **Q1**. (*Accepted*).
- [J2] Khaled Eldowa, Nicolo Cesa-Bianchi, Alberto Maria Metelli, and Marcello Restelli. “Information Capacity Regret Bounds for Bandits with Mediator Feedback”. **Journal of Machine Learning Research**, 25(353):1–36, 2024. CORE 2020: **A***. SJR 2023: **Q1**.
(link: <http://jmlr.org/papers/v25/24-0227.html>).
- [J3] Alessio Russo, Alberto Maria Metelli, and Marcello Restelli. “Switching Latent Bandits”. **Transactions on Machine Learning Research**, 2024.
(link: <https://openreview.net/forum?id=4ZGqCXcUqR>).
- [J4] Gabor Paczoly, Matteo Papini, Alberto Maria Metelli, Istvan Harmati, and Marcello Restelli. “Sample Complexity of Variance-Reduced Policy Gradient: Weaker Assumptions and Lower Bounds”. **Machine Learning**, 113:6475–6510, 2024. CORE 2020: **A**. SJR 2023: **Q1**.
(link: <https://doi.org/10.1007/s10994-024-06573-4>).
- [J5] Paolo Bonetti, Alberto Maria Metelli, and Marcello Restelli. “Interpretable linear dimensionality reduction based on bias-variance analysis”. **Data Mining and Knowledge Discovery**, 38(4):1713–1781. CORE 2020: **A**. SJR 2023: **Q1** (Computer Science Applications).
(link: <https://doi.org/10.1007/s10618-024-01015-0>).
- [J6] Riccardo Poiani, Ciprian Stirbu, Alberto Maria Metelli, and Marcello Restelli. “Optimizing Empty Container Repositioning and Fleet Deployment via Configurable Semi-POMDPs”. **IEEE Transactions on Intelligent Transportation Systems**, 25(5):4704–4711, 2024. SJR 2023: **Q1** (Computer Science Applications).
(link: <https://doi.org/10.1109/TITS.2023.3329677>).
- [J7] Gianluca Drappo, Alberto Maria Metelli, and Marcello Restelli. “An Option-Dependent Analysis of Regret Minimization Algorithms in Finite-Horizon Semi-MDP”. **Transactions on Machine Learning Research**, 2023.
(link: <https://openreview.net/forum?id=VP9p4u9jAo>).
- [J8] Filippo Fedeli, Alberto Maria Metelli, Francesco Trovò, and Marcello Restelli. “IWDA: Importance Weighting for Drift Adaptation in Streaming Supervised Learning Problems”. **IEEE Transactions on Neural Networks and Learning Systems**, 34(10):6813–6823, 2023. CORE 2020: **A***. SJR 2023: **Q1**.
(link: <https://doi.org/10.1109/TNNLS.2023.3265524>).
- [J9] Marco Mussi, Davide Lombarda, Alberto Maria Metelli, Francesco Trovò, and Marcello Restelli. “ARLO: A framework for Automated Reinforcement Learning”. **Expert Systems with Applications**, 224:119883, 2023. CORE 2020: **B**. SJR 2022: **Q1**.
(link: <https://doi.org/10.1016/j.eswa.2023.119883>).
- [J10] Alberto Maria Metelli. “A Unified View of Configurable Markov Decision Processes: Solution Concepts, Value Functions, and Operators”. **Intelligenza Artificiale**, 16(2):165–184, 2022. SJR 2022: **Q3**. (*Invited publication as winner of the “Premio Neodottori di Ricerca Marco Cadoli 2021”*).
(link: <https://doi.org/10.3233/IA-220140>).

⁹The first author represents the main contributor; in the case of multiple main contributors (equal contribution), they are marked with *. Alphabetic order of authors is denoted with (α - β order). For both journal and conference publications, the rating is the most recent available in the year of publication. For Scimago Ranks (SJR), the “Artificial Intelligence” quartile is reported if no further specification.

- [J11] Alberto Maria Metelli, Guglielmo Manneschi, and Marcello Restelli. “Policy space identification in configurable environments”. **Machine Learning**, 111(6):2093–2145, 2022. CORE 2020: **A**. SJR 2022: **Q1**.
(link: <https://doi.org/10.1007/s10994-021-06033-3>).
- [J12] Alberto Maria Metelli, Matteo Pirotta, Daniele Calandriello, and Marcello Restelli. “Safe Policy Iteration: A Monotonically Improving Approximate Policy Iteration Approach”. **Journal of Machine Learning Research**, 22(97):1–83, 2021. CORE 2020: **A***. SJR 2021: **Q1**.
(link: <http://jmlr.org/papers/v22/19-707.html>).
- [J13] Amarildo Likmeta, Alberto Maria Metelli, Giorgia Ramponi, Andrea Tirinzoni, Matteo Giuliani, and Marcello Restelli. “Dealing with multiple experts and non-stationarity in inverse reinforcement learning: an application to real-life problems”. **Machine Learning**, 110(9):2541–2576, 2021. CORE 2020: **A**. SJR 2021: **Q1**.
(link: <https://doi.org/10.1007/s10994-020-05939-8>).
- [J14] Alberto Maria Metelli, Matteo Papini, Nico Montali, and Marcello Restelli. “Importance Sampling Techniques for Policy Optimization”. **Journal of Machine Learning Research**, 21(141):1–75, 2020. CORE 2020: **A***. SJR 2020: **Q1**.
(link: <http://jmlr.org/papers/v21/20-124.html>).
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Autorizzo al trattamento dati ai sensi del GDPR 2016/679 del 27 aprile 2016 (Regolamento Europeo relativo alla protezione delle persone fisiche per quanto riguarda il trattamento dei dati personali).

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