MATTEO CARDELLINI

Università degli Studi di Genova, Italia

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EDUCATIONAL, PROFESSIONAL AND ACADEMIC BACKGROUND

2025	Appointed Scientific Coordinator of the Joint DiDiLab Laboratory between the University of Genoa and ParvaSoft S.p.a.
2025-2028	Researcher at DIBRIS, University of Genoa.
2024-2025	Postdoctoral Research Fellow at DIBRIS, University of Genoa, one-year grant titled "Artificial Intelligence for Railway Dispatching".
2023	Visiting Researcher from February to May 2023 at the University of Huddersfield, UK.
2022	Special Mention of the AIxIA Leonardo Lesmo Award for the best Italian Master's thesis in Artificial Intelligence
2021-2024	PhD (awarded with honors) in the National PhD in Artificial Intelligence (Administrative site: Polytechnic University of Turin, Working site: University of Genoa) with a grant titled "Planning and Scheduling Based on Artificial Intelligence Methodologies in the Railway Domain".
2020	Post-graduate fellowship of EUR5k titled "Induction and Deduction for Railway Traffic Planning in Small and Medium-Sized Stations", University of Genoa.
2019-2021	Master's Degree (110/110 with Honors and Publication Dignity) in Computer Engineering (LM-32), curriculum in Artificial Intelligence and Human-Centered Computing, University of Genoa.
2016-2019	Bachelor's Degree (110/110) in Computer Engineering (L-8), University of Genoa.
2016	High School Diploma in Scientific Studies – Liceo Scientifico Convitto C. Colombo, Genoa.

PHD

I obtained my PhD in the National PhD in Artificial Intelligence (Administrative site: Polytechnic University of Turin, Working site: University of Genoa) with a grant titled "Planning and Scheduling Based on Artificial Intelligence Methodologies in the Railway Domain". I was awarded the title with honors on January 9, 2025, with the thesis "Symbolic Pattern Planning".

TEACHING

2025	Algorithms. 48h. 6CFU. Bachelor's Degree in Computer Engineering (L-8). University of Genoa.
2025	AI-Based Planning. 12h. 3CFU. PhD in Security, Risk and Vulnerability. University of Genoa.
2025	Artificial Intelligence for Robotics II. 20h. 5CFU. ING-INF/05. Master's Degree in Robotics Engineering (LM-32). University of Genoa.
2025	Artificial Intelligence. 8h. 1CFU. ING-INF/05. Master's Degree in Computer Engineering (LM-32). University of Genoa.
2025	Fundamentals of Computer Science. 70h. 7CFU. ING-INF/05. Bachelor's Degree in Electrical Engineering (L-9) and Chemical and Process Engineering (L-9). University of Genoa.

TUTORING

2024 Fundamentals of Computer Science. 30h. ING-INF/05. Naval Engineering.
2023 Fundamentals of Computer Science. 30h. ING-INF/05. Naval Engineering.
2022 Databases. 20h. ING-INF/05. Computer Engineering

THESIS SUPERVISOR OR CO-SUPERVISOR

2022 A. Formica. Master's Degree in Computer Engineering. "In-Station Train Dispatching via Artificial Intelligence Techniques: Optimisation, Rescheduling and Visualisation". Co-supervisor. University of Genoa.
2022 C. Ansaldo and N. Chiesa. Bachelor's Degree in Computer Engineering. "Artificial Intelligence Techniques for Solving the Shift Scheduling Problem". Co-supervisor. University of Genoa.

POST-DOC RESEARCH GRANTS

2024 One-year post-doc research grant titled "Artificial Intelligence for Railway Dispatching". SSD ING-INF/05 From 04/11/2024 to 03/11/2025

PERIODS AT FOREIGN UNIVERSITIES AND RESEARCH CENTERS

2023 University of Huddersfield. Visiting Researcher. From 01/02/2023 to 15/05/2023. Worked in Prof. Mauro Vallati's group at the Centre for Planning, Autonomy and Representation of Knowledge (PARK).

PARTICIPATION IN RESEARCH PROJECTS WITH PRIVATE ENTITIES

2025-2028 Scientific Coordinator of the Joint DiDiLab Laboratory between the University of Genoa and ParvaSoft S.p.a. aimed at research and training on artificial intelligence applied to integrated logistics management.
2024-2025 Project titled "Artificial Intelligence for Railway Dispatching" within the RaidLab, a joint laboratory between Hitachi Rail and the University of Genoa.
2021-2024 Project titled "Planning and Scheduling Based on Artificial Intelligence Methodologies in the Railway Domain" within the RaidLab, a joint laboratory between Hitachi Rail and the University of Genoa.
2019-2021 Project titled "Artificial Intelligence Techniques for the Train Dispatching Problem in Stations" within the RaidLab, a joint laboratory between Hitachi Rail and the University of Genoa.
2016-2019 Project titled "Induction and Deduction for Railway Traffic Planning in Small and Medium-Sized Stations" within the RaidLab, a joint laboratory between Hitachi Rail and the University of Genoa.

PARTICIPATION IN INTERNATIONAL RESEARCH PROJECTS

I carried out research activities within the following international projects:
2022-2025 EU Horizon Europe. European Lighthouse on Secure and Safe AI (ELSA)

PARTICIPATION IN NATIONAL RESEARCH PROJECTS

I carried out research activities within the following national projects:
2024-2024 Extended Partnership. Future Artificial Intelligence Research (FAIR)
2023-2028 Extended Partnership. SEcurity and RIghts In the CyberSpace (SERICS)

TALKS AT INTERNATIONAL CONFERENCES

2025-08-20 International Joint Conference on Artificial Intelligence (IJCAI). Montreal, Quebec, Canada.

2025-02-28 Association for the Advancement of Artificial Intelligence (AAAI). Philadelphia, Pennsylvania, USA.

2024-10-15 International Conference on Logic Programming (ICLP). Dallas, Texas, USA.

2024-02-24 Association for the Advancement of Artificial Intelligence (AAAI). Vancouver, British Columbia, Canada.

2022-08-02 Doctoral Consortium of the International Conference on Logic Programming (ICLP). Haifa, Israel.

2021-08-11 International Conference on Automated Planning and Reasoning (ICAPS). Virtual.

TALKS AT NATIONAL CONFERENCES

2021-09-08 Italian Conference on Computational Logic (CILC). Parma, Italy.

2022-10-28 Doctoral Consortium at the Conference of the Italian Association for Artificial Intelligence (AIxIA). Udine, Italy.

2023-11-07 Italian Workshop on Planning and Scheduling (IPS) at the Conference of the Italian Association for Artificial Intelligence (AIxIA). Rome, Italy.

AWARDS AND RECOGNITIONS

2022 Special Mention of the Leonardo Lesmo Award for the best Italian Master's thesis in Artificial Intelligence, awarded by the Italian Association for Artificial Intelligence.

ARTICLES IN INTERNATIONAL JOURNALS

J3 **Optimising Dynamic Traffic Distribution for Urban Networks with Answer Set Programming**. M. Cardellini, C. Dodaro, M. Maratea and M. Vallati - Theory and Practice of Logic Programming, Volume 24, Issue 4, July 2024, pp. 825-843 - Scimago: Q2 on Artificial Intelligence

J2 **Solving Rehabilitation Scheduling Problems via a Two-Phase ASP approach**. M. Cardellini, P. De Nardi, C. Dodaro, G. Galatà, A. Giardini, M. Maratea, I. Porro. Theory and Practice of Logic Programming, Volume 24, Issue 2, March 2024, pp. 344-367 - Scimago: Q2 on Artificial Intelligence

J1 **Rescheduling Rehabilitation Sessions with Answer Set Programming**. M. Cardellini, C. Dodaro, G. Galatà, A. Giardini, M. Maratea, N. Nisopoli and I. Porro. Journal of Logic and Computation, Volume 33, Issue 3, April 2023, pp. 837-863 - Scimago: Q2 on Logic

CONTRIBUTIONS TO INTERNATIONAL CONFERENCES

C12 **Pushing the Envelope in Numeric Pattern Planning**. Matteo Cardellini, and Enrico Giunchiglia. Proceedings of the 22nd International Conference on Principles of Knowledge Representation and Reasoning (KR). 2025 - GGS: A^+, CORE: A^{++}

C11 **Constraint-based In-Station Train Dispatching**. Andreas Schutt, Matteo Cardellini, Jip J. Dekker, Daniel Harabor, Marco Maratea, and Mauro Vallati. Proceedings of the 31st International Conference on Principles and Practice of Constraint Programming (CP). 2025 - GGS: A, CORE: A

C10 **Rolling in Classical Planning with Conditional Effects and Constraints**. M. Cardellini, and E. Giunchiglia. Proceedings of the 34th International Joint Conference on Artificial Intelligence (IJCAI). IJCAI, 2025 - GGS: A^{++}, CORE: A^{++}

C9 **Initial Condition Retrieving for Hybrid and Numeric Planning Problems**. M. Cardellini, M. Maratea, F. Percassi and M. Vallati. Proceedings of the 35th International Conference on Automated Planning and Scheduling (ICAPS). AAAI Press, 2025 - GGS: A, CORE: A^{++}

C8 **Temporal Numeric Planning with Patterns**. M. Cardellini and E. Giunchiglia. Proceedings of the 39th Annual AAAI Conference on Artificial Intelligence (AAAI). AAAI Press, 2025 - GGS: A^{++}, CORE: A^{++}

C7 **Taming Discretised PDDL+ through Multiple Discretisations**. M. Cardellini, M. Maratea, F. Percassi, E. Scala and M. Vallati. Proceedings of the 34th International Conference on Automated Planning and Scheduling (ICAPS). AAAI Press, 2024 - GGS: A, CORE: A^{++}

C6 **Symbolic Numeric Planning With Patterns**. M. Cardellini, E. Giunchiglia and M. Maratea. Proceedings of the 38th Annual AAAI Conference on Artificial Intelligence (AAAI). AAAI Press, 2024 - GGS: A^{++}, CORE: A^{++}

C5 **A Framework for Risk-Aware Routing of Connected Autonomous Vehicles via Artificial Intelligence**. M. Cardellini, C. Dodaro, M. Maratea, and M. Vallati. In Proceedings of the 26th IEEE International Conference on Intelligent Transportation Systems (ITSC). IEEE, 2023 - MA: A^{-}

C4 **A Two-Phase ASP Encoding for Solving Rehabilitation Scheduling**. M. Cardellini, P. De Nardi, C. Dodaro, G. Galatá, A. Giardini, M. Maratea and I. Porro. 2021. In Proceedings of the 5th International Joint Conference RuleML+RR. Springer, 2021 - CORE: B

C3 **In-Station Train Movements Prediction: from Shallow to Deep Multi Scale Models**. G. Boleto, L. Oneto, M. Cardellini, M. Maratea, M. Vallati, R. Canepa, D. Anguita. In Proceedings of the 29th European Symposium on Artificial Neural Networks (ESANN). i6doc, 2021 - GGS: B, CORE: B

C2 **An Efficient Hybrid Planning Framework for In-Station Train Dispatching**. M. Cardellini, M. Maratea, M. Vallati, G. Boleto, and L. Oneto. Proceedings of the 21st International Conference on Computational Science (ICCS). Springer, 2021 - GGS: B, CORE: A

C1 **In-Station Train Dispatching: A PDDL+ Planning Approach**. M. Cardellini, M. Maratea, M. Vallati, G. Boleto, and L. Oneto. Proceedings of the 31st International Conference on Automated Planning and Scheduling. AAAI Press, 2021 - GGS: A, CORE: A^{++}

PHD THESIS

T1 PhD Thesis titled "Symbolic Pattern Planning". Defended on January 9, 2025.

MEMBER OF PROGRAM COMMITTEES

2025	Reviewer. European Conference of Artificial Intelligence
2025	Reviewer. Journal of Applied Logic
2023-2025	Reviewer. International Conference on Automated Planning and Scheduling
2023-2026	Reviewer. International AAAI Conference on Artificial Intelligence

CONFERENCE ORGANIZATION

2025	Organizer of the "Constraint And Satisfiability-based Planning: an Exploratory Research Workshop" during the International Conference on Planning and Scheduling (CORE: A++, GGS: A) in Melbourne, Victoria, Australia, November 9–14, 2025.
2022	Local Organization of the International Conference on Logic Programming and Non-monotonic Reasoning. Genoa, Italy.

SEMINARS AND INVITED TALKS

2025-11-10	Invited Tutorial on "Planning as SAT: What's New?" during the International Conference on Planning and Scheduling (CORE: A++, GGS: A) in Melbourne, Victoria, Australia, November 9–14, 2025.
2025-01-25	University of Genoa. Seminar on "Symbolic Pattern Planning".
2024-07-16	University of Oxford. Seminar on "Symbolic Pattern Planning".
2024-02-16	Bruno Kessler Foundation. Seminar on "Symbolic Pattern Planning".
2023-03-01	University of Huddersfield. Seminar on "An ASP Framework for Efficient Urban Traffic Optimization".

BIBLIOMETRIC VALUES <small>(UPDATED SEPTEMBER 5, 2025)</small>

	Google Scholar	SCOPUS
Number of Articles in 5 years	20	16
Number of Citations in 10 years	121	76
H-Index in 10 years	6	5