# MATTEO CARDELLINI

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# JOURNAL PUBLICATIONS

- 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

# CONFERENCE PUBLICATIONS

- 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. AAAI Press, 2025 GGS: A, CORE: A<sup>++</sup>
- C8 **Temporal Numeric Planning with Patterns**. M. Cardellini and E. Giunchiglia. Proceedings of the 39th Annual AAAI Conference on Artificial Intelligence. AAAI Press, 2025 GGS: A<sup>++</sup>, CORE: A<sup>++</sup>
- 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. AAAI Press, 2024 GGS: A, CORE: A<sup>++</sup>
- C6 Symbolic Numeric Planning With Patterns. M. Cardellini, E. Giunchiglia and M. Maratea. Proceedings of the 38th Annual AAAI Conference on Artificial Intelligence. AAAI Press, 2024 - GGS: A<sup>++</sup>, CORE: A<sup>++</sup>
- 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. IEEE, 2023 - MA: A<sup>-</sup>
- 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. 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. 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<sup>++</sup>

# AWARDS

A1 Award AIxIA Leonardo Lesmo 2022. Special mention for the best Italian Master's Degree Thesis in Artificial Intelligence

# PROJECTS

P1 Post-graduate scholarship on Induction and Deduction for Railway Traffic Planning in Small and Medium-sized Stations - July 2020 to November 2020 - 5k EUR - DIBRIS, University of Genova

# INVITED TALKS AND SEMINARS

- S4 University of Genova. Seminar. Symbolic Pattern Planning. January 25, 2024
- S3 University of Oxford. Seminar. Symbolic Pattern Planning. July 16, 2024
- S2 Fondazione Bruno Kessler. Seminar. Symbolic Pattern Planning. February 16, 2024
- S1 University of Huddersfield. Seminar. An ASP Framework for Efficient Urban Traffic Optimization. March 1, 2023

# EXPERIENCES ABROAD

E1 University of Huddersfield. Visiting Researcher - From February to Mid May 2023. Worked in the group of Prof. Mauro Vallati at the Centre for Planning, Autonomy and Representation of Knowledge (PARK)

#### ACADEMIC POSITIONS

**Research Fellow (Assegno di Ricerca)** DIBRIS, University of Genova, Italy

#### EDUCATION

Italian National Ph.D. in Artificial IntelligenceNovember 202Work Faculty: University of Genova, ItalyAdministrative Faculty: Polytechnic of Torino, ItalySupervisors: M. Maratea, E. Giunchiglia, and M. VallatiFinal Grade: PhD obtained Cum Laude on January 9th, 2025

#### University of Genova, Italy

Master's Degree on Computer Engineering Curriculum in Artificial Intelligence and Human-Centered Computing Final Grade: 110/110 Cum Laude and 'Dignitá di Stampa" obtained July 30th, 2021

#### University of Genova, Italy

Bachelor's degree on Computer Engineering Final Grade: 110/110 obtained September 30th, 2019

#### THESES

- T3 Ph.D. Symbolic Pattern Planning M. Cardellini Supervisors: E. Giunchiglia, M. Maratea, M.Vallati
- T2 Master's degree. Artificial Intelligence Techniques for Solving the In-Station Train Dispatching Problem - M. Cardellini - Supervisors: M. Maratea
- T1 Bachelor's degree. Visual and Data Analytics for the Analysis of Trains' Flux in a Railway Network - G. Boleto, M. Cardellini, G. Martino - Supervisors: L. Oneto, M. Maratea

# TEACHING ACTIVITIES TA = TEACHING ASSISTANT, LT = BACHELOR, LM = MASTER, D = PHD

- D1 AI-Based Planning. PhD in Security, Risk and Vulnerability. 12 hours. 3 CFU. University of Genova (DIBRIS) - AY 24/25
- LM2 Artificial Intelligence for Robotics II. LM Robotics Engineering. 20 hours. 5 CFU. University of Genova (DIBRIS) AY 24/25

November 2024 - October 2025

November 2021 - October 2024

September 2019 - July 2021

September 2016 - September 2019

- LM1 Artificial Intelligence. LM Computer Engineering. 8 hours. 1 CFU. University of Genova (DIB-RIS) - AY 24/25
- LT1 Fondamenti di Informatica. LT Ingegneria Elettrica and LT Ingegneria Chimica. 70 hours. 7 CFU. University of Genova (DITEN) - AY 24/25
- TA3 Fondamenti di Informatica. Teaching assistant, Prof. E. Giunchiglia. LT ING-INF/05, University of Genova (DIBRIS) AY 24/25 First Semester
- TA2 Fondamenti di Informatica. Teaching assistant, Prof. E. Giunchiglia. LT ING-INF/05, University of Genova (DIBRIS) AY 23/24 First Semester
- TA1 Databases. Teaching assistant. Prof. A. Boccalatte, Prof. M. Maratea, LT ING-INF/05, University of Genova (DIBRIS) AY 22/23 Second Semester

# SUPERVISOR ACTIVITIES cs = co-supervisor

- CS2 A. Formica. October 2022. Master's Degree in Computer Engineering. In-Station Train Dispatching via Artificial Intelligence Techniques: Optimisation, Rescheduling and Visualisation. Cosupervisor with Prof. M. Maratea
- CS1 C. Ansaldo, N. Chiesa. July 2022. Bachelor's Degree in Computer Engineering. Artificial Intelligence Techniques for Solving the Shift Scheduling Problem. Co-supervisor with Prof. M. Maratea

 $EVENTS \ \ pc = program \ committee, \ o = organizer, \ r = journal \ reviewer$ 

R2 Journal of Applied Logic 25. Guest Reviewer

- PC4 ICAPS 23, 24, 25. PC Member. International Conference on Automated Planning and Scheduling
- PC3 AAAI 23, 24, 25. *PC Member*. AAAI Conference on Artificial Intelligence R1 Intelligenza Artificiale 24. *Guest Reviewer*
- PC2 KEPS 23, 24. PC Member. Workshop on Knowledge Engineering for Planning and Scheduling
- PC1 ECAI 23, 25. PC Member. European Conference on Artificial Intelligence
- O1 LPNMR 22. Local Organizer. 18th International Conference on Logic Programming and Nonmonotonic Reasoning

# ORAL PRESENTATIONS

- 1. CILC-21 Parma, Italy September 8th 2021.
- 2. ICAPS-21 Virtual August 11th 2021.
- 3. AIxIA-22 Doctoral Consortium Udine, Italy Monday 28th, 2022.
- 4. ICLP-22 Doctoral Consortium Haifa, Israel August 2nd, 2022.
- 5. IPS@AIxIA-23 Rome, Italy November 7th, 2023.
- 6. AAAI-24 Vancouver, Canada February 24th, 2024.
- 7. ICLP-24 Dallas, Texas, USA October 15th, 2024.
- 8. AAAI-25 Philadelphia, Pennsylvania, USA February 28th, 2025.

#### WORK EXPERIENCE

SurgiQ SRL Researcher April 2021 - November 2021 Genova - IT

Secondhand Mobile SRL CTO e Co-founder February 2018 - April 2021 Genova - IT