

Publications – Dr. Sagar Malhotra

The following is a list of my peer-reviewed publications, ordered as journal publications, conference publications and (peer-reviewed) workshop contributions. I indicate the conference ranking using the [CORE ranking system](#) in parentheses: **A*** denotes a flagship international conference (top ~8% of all computer science conferences), while **A** signifies an internationally excellent conference (top ~15%). The *Artificial Intelligence Journal* is widely recognized as one of the leading journals in the fields of artificial intelligence and machine learning.

Since 2022, I have produced **8 top-tier publications** (i.e. in conferences ranked **A*** or **A**, or in **Q1** journals) and **2 award winning publications**. Additionally, I have supervised multiple students towards publishing their work. I have underlined such supervised student coauthors. I have also indicated the relevant broader subfields (as listed in the call) for each publication where applicable.

Journal Publications

- 2025 **Sagar Malhotra**, Davide Bizzaro and Luciano Serafini
Lifted Inference beyond First Order Logic
Artificial Intelligence Journal, 2025.
[AIJ](#) (Q1 Journal)

Conference Publications

- 2025 **Monitoring NNs**
Peter Blohm, Patrick Indri, Thomas Gärtner, **Sagar Malhotra**
Probably Approximately Global Robustness Certification
International Conference of Machine Learning 2025.
[ICML 2025](#) (CORE Rank **A***, 26.9% acceptance rate)
- 2025 **Explainable AI**
Steve Azzolin[†], **Sagar Malhotra**[†], Andrea Passerini, Stefano Teso
Beyond Topological Self-Explainable GNNs: A Formal Explainability Perspective
International Conference of Machine Learning 2025.
[ICML 2025](#) ([†]Equal Contribution, CORE Rank **A***, 26.9% acceptance rate)
- 2024 **Explainable AI**
Alexander Pluska, Pascal Welke, Thomas Gärtner and **Sagar Malhotra**.
Logical Distillation of Graph Neural Networks
International Conference on Principles of Knowledge Representation and Reasoning 2024
[KR 2024](#) (CORE Rank **A***, 17% acceptance rate in the special track. **Honorable Mention**)
- 2024 **Supervised Learning**
Florian Chen, Felix Weitkämper, and **Sagar Malhotra**.
Understanding Domain-Size Generalization in Markov Logic Networks
Machine Learning and Knowledge Discovery in Databases. Research Track - European Conference
[ECML PKDD 2024](#) (CORE Rank **A**, 24% acceptance rate)
- 2024 **Neuro-Symbolic AI**
Alessandro Daniele, Tommaso Campari, **Sagar Malhotra** and Luciano Serafini
Simple and Effective Transfer Learning for Neuro-Symbolic Integration
International Conference on Neural-Symbolic Learning and Reasoning, NeSy 2024
[NeSy 2024](#) (**Best Paper Award**)
- 2023 **Neuro-Symbolic AI**
Alessandro Daniele, Tommaso Campari, **Sagar Malhotra** and Luciano Serafini.
Deep Symbolic Learning: Discovering Symbols and Rules from Perception
International Joint Conference on Artificial Intelligence 2023
[IJCAI 2023](#) (CORE Rank **A***, 15% acceptance rate)

- 2022 **Sagar Malhotra** and Luciano Serafini
On Projectivity in Markov Logic Networks
Machine Learning and Knowledge Discovery in Databases. Research Track - European Conference ECML PKDD 2022 (CORE Rank A, 26% acceptance rate).
- 2022 **Sagar Malhotra** and Luciano Serafini
Weighted Model Counting in FO^2 with Cardinality Constraints and Counting Quantifiers: A Closed Form Formula
AAAI Conference on Artificial Intelligence 2022
[AAAI 2022](#) (CORE Rank A*, 15% acceptance rate, **accepted as oral presentation**)
- 2021 **Sagar Malhotra** and Luciano Serafini
A Combinatorial Approach to Weighted Model Counting in the Two Variable Fragment with Cardinality Constraints
International Conference of the Italian Association for Artificial Intelligence 2019
[AIxIA 2021](#)
- Workshop Publications (Peer-reviewed)**
- 2025 **Explainable AI** Klaus Weinbauer, Tieu-Long Phan, Peter F. Stadler, Thomas Gärtner, and **Sagar Malhotra**
Prime Implicant Explanations for Reaction Feasibility Prediction
Workshop on Advances in Interpretable ML and AI, ECML-PKDD 2025
- 2024 **Monitoring NNs** Patrick Indri, Peter Blohm, Anagha Athavale, Ezio Bartocci, Georg Weissenbacher, Matteo Maffei, Dejan Nickovic, Thomas Gärtner, **Sagar Malhotra**
Distillation based Robustness Verification with PAC Guarantees
Next Generation of AI Safety Workshop, ICML 2024
[NextGenAISafety, ICML 2024](#)
- 2024 **Explainable AI** Alexander Pluska, Pascal Welke, Thomas Gärtner and **Sagar Malhotra**.
Logical Distillation of Graph Neural Networks
Workshop on Mechanistic Interpretability, ICML 2024
[MI Workshop, ICML 2024](#)
- 2023 **Neuro-Symbolic AI** Alessandro Daniele, Tommaso Campari, **Sagar Malhotra** and Luciano Serafini.
Deep Symbolic Learning: Discovering Symbols and Rules from Perception
International Workshop on Neural-Symbolic Learning and Reasoning 2023
[NeSy 2023](#) (**Accepted for spotlight presentation**)
- 2022 **Sagar Malhotra** and Luciano Serafini
On Projectivity in Markov Logic Networks
International Workshop on Probabilistic Logic Programming 2022
[PLP 2022](#)
- 2021 **Sagar Malhotra** and Luciano Serafini. Weighted Model Counting in FO^2 with Cardinality Constraints and Counting Quantifiers: A Closed Form Formula
International Workshop on Statistical Relational AI, IJCLR 2021.
[StarAI, IJCLR 2021](#)