

## Publications – Dr. Sagar Malhotra

The following is a list of my peer-reviewed publications, ordered as conference, journal and selected (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 **9 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, in different roles, leading to publications. I have underlined such supervised student coauthors.

### Conference Publications

- 2025 Alexander Pluska and **Sagar Malhotra**  
On Local Limits of Sparse Random Graphs:  
Color Convergence and the Refined Configuration Model  
*Neural Information Processing Systems 2025*.  
[NeurIPS 2025](#) (CORE Rank **A\***, 24.52% acceptance rate)
- 2025 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 Steve Azzolin<sup>†</sup>, **Sagar Malhotra**<sup>†</sup>, Andrea Passerini, Stefano Teso  
Beyond Topological Self-Explainable GNNs: A Formal Explainability Perspective  
*International Conference of Machine Learning 2025*.  
[ICML 2025](#) (<sup>†</sup>Equal Contribution, CORE Rank **A\***, 26.9% acceptance rate)
- 2024 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 Florian Chen, Felix Weitekämper, 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 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 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](#)

### Journal Publications

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

### Under Review

2025 Steve Azzolin, Stefano Teso, Bruno Lepri, Andrea Passerini, and **Sagar Malhotra**  
GNN Explanations that do not Explain and How to find Them  
*Under Review at International Conference on Learning Representations 2025*.  
Pre-rebuttal Score: Accept (8), Weak Accept (6) and Weak Reject (4)  
[ICLR 2025](#)

### Selected Workshop Publications (Peer-reviewed)

2025 Anton Zamyatin, Patrick Indri, **Sagar Malhotra** and Thomas Gärtner  
Is BatchEnsemble a Single Model? On Calibration and Diversity of Efficient Ensembles  
*Epistemic Intelligence in Machine Learning Workshop, EurIPS 2025*  
[EIML@EurIPS2025](#)

2025 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*  
[AIMLAI, ECML PKDD 2025](#)

2024 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](#)

2023 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)