

Publications¹

- 2025 **Sagar Malhotra**, Davide Bizzaro and Luciano Serafini
Lifted Inference beyond First Order Logic
Artificial Intelligence Journal. [AIJ](#)
- 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
[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
[ECML PKDD 2022](#)(CORE Rank A, 26% acceptance rate).
- 2022 **Sagar Malhotra** and Luciano Serafini
Weighted Model Counting in FO² 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](#)

¹Supervised student coauthors are underlined.

Workshop Publications¹

- 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](#)
- 2024 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 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](#)
- 2020 **Sagar Malhotra** and Luciano Serafini. Weighted Model Counting in C^2 (Abstract)
Workshop on Machine Learning and Data Mining, AIXIA 2020
[MLDM 2020](#)

Preprints¹

- 2025 Peter Blohm, Patrick Indri, Thomas Gärtner, **Sagar Malhotra**
Probably Approximately Global Robustness Certification
[Link](#)
- 2025 Steve Azzolin*, **Sagar Malhotra***, Andrea Passerini, Stefano Teso
Beyond Topological Self-Explainable GNNs: A Formal Explainability Perspective
*Equal Contribution. [Arxiv](#)
- 2024 Davide Bizzaro, Luciano Serafini and **Sagar Malhotra**
Towards Counting Markov Equivalence Classes with Logical Constraints
[Arxiv](#)

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