DOCTORAL PROGRAM IN INFORMATION AND COMMUNICATION TECHNOLOGY

Doctoral Candidate: Sagar Malhotra

Thesis Title: On Tractability and Consistency of Probabilistic Inference in Relational Domains

Advisor: Luciano Serafini

PhD Cycle: 35^{th}

Refereed Publications

2023 Alessandro Daniele, Tommaso Campari, **Sagar Malhotra** and Luciano Serafini.
Deep Symbolic Learning: Discovering Symbols and Rules from Perception
To appear in proceedings of International Joint Conference of Artificial Intelligence (IJCAI) 2023.
IJCAI 2023

2022 **Sagar Malhotra** and Luciano Serafini. On Projectivity in Markov Logic Networks
Proceedings of Machine Learning and Knowledge Discovery in Databases. Research Track - European Conference, ECML PKDD 2022
ECML PKDD 2022.

2022 **Sagar Malhotra** and Luciano Serafini. Weighted Model Counting in FO^2 with Cardinality Constraints and Counting Quantifiers: A Closed Form Formula
(Oral presentation) Proceedings of the 36^{th} AAAI Conference on Artificial Intelligence.
AAAI 2022

2021 **Sagar Malhotra** and Luciano Serafini. A Combinatorial Approach to Weighted Model Counting in the Two Variable Fragment with Cardinality Constraints
Proceedings of the 20^{th} International Conference of the Italian Association for Artificial Intelligence
AIxIA 2021

Workshop Publications

2022 **Sagar Malhotra** and Luciano Serafini. On Projectivity in Markov Logic Networks
9^{th} International Workshop on Probabilistic Logic Programming 2022, FLoC 2022.
PLP 2022

2022 **Sagar Malhotra** and Luciano Serafini. On Projectivity in Markov Logic Networks
R.i.C.e.R.c.A: RCRA Incontri E Confronti, AIxIA 2022.
R.i.C.e.R.c.A 2022

2021 **Sagar Malhotra** and Luciano Serafini. Weighted Model Counting in FO^2 with Cardinality Constraints and Counting Quantifiers: A Closed Form Formula
10^{th} International Workshop on Statistical Relational AI, IJCLR 2021.
StarAI 2021

2020 **Sagar Malhotra** and Luciano Serafini. Weighted Model Counting in C^2 (Abstract)
9^{th} International Workshop on Machine Learning and Data Mining, AIxIA 2020.
MLDM 2020

Under Review

2023 **Sagar Malhotra** and Luciano Serafini
Weighted First Order Model Counting with Connectivity Axioms
Under Review.

2023 **Sagar Malhotra** and Luciano Serafini.
Weighted First Order Model Counting with Directed Acyclic Graph Axiom
Under Review. arXiv:2302.09830

Talks and Tutorials

2022 On Consistency of Learning and Inference in Statistical Relational Learning
Invited Talk at MLDM Workshop at the AIxIA Conference 2022, Udine, Italy (Abstract)

2022 On Probabilistic Inference in Logical Domains
Invited Speaker at the Institute of Informatics, Ludwig Maximilian University of Munich, Germany

2022 A Tutorial on Probabilistic Inference in Logical Domains
Guest Lecture at the Knowledge representation and Learning course, University of Padova, Italy

2022 Weighted First-Order Model Counting
DocInProgress Colloquium, Department of Mathematics, University of Trento, Italy

2022 Weighted First-Order Model Counting
AAAI 2022@FBK Workshop, Trento, Italy (Video)

Reviewing and Program Committee Experience

- Reviewer for Data Mining and Knowledge Discovery (Q1 Journal)
- PC Member at Probabilistic Logic Programming workshop, 2023
- PC Member at the 20th International Conference on Principles of Knowledge Representation and Reasoning, 2023
- PC Member at the Thirty-Seventh AAAI Conference on Artificial Intelligence, 2023
- Reviewer at the 25th International Conference on Artificial Intelligence and Statistics, 2023
- Sub-reviewer at the 18th International Conference on Principles of Knowledge Representation and Reasoning, 2021