Sagar Malhotra

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Born: May 6, 1994 Nationality: Indian

Current position

11.2019-01.2023 PhD Candidate

Advisor: Luciano Serafini

Project: Analytical Approaches to Lifted Inference¹

University of Trento, Italy Fondazione Bruno Kessler, Italy

Research Experience and Education

2018-2019

Junior Research Fellow

Advisors: Luciano Serafini, Radim Nedbal

Project: Variational Inference in Hybrid Domains

Data and Knowledge Management Unit

Fondazione Bruno Kessler, Italy

2018

MSc in Physics

Advisors: Roberto Iuppa (Unitn), Marco Cristoforetti (FBK)

Thesis: Deep Learning For Track Reconstruction in Next Generation HEP Experiments

Fondazione Bruno Kessler, Italy University of Trento, Italy

2015

BSc in Physics with Honors University of Delhi, India

Conference Publications

2022

Sagar Malhotra and Luciano Serafini. Weighted Model Counting in FO² with Cardinality Constraints and Counting Quantifiers: A Closed Form Formula (Oral presentation) Proceedings of the 36^{th} AAAI Conference on Artificial Intelligence. arXiv:2110.05992

¹Tentative title

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, 2021

Workshop Publications

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

Submitted Papers and Preprints

Sagar Malhotra and Luciano Serafini. On Projectivity in Markov Logic Networks *Under Review*.arXiv:2204.04009

Talks

2021

2021

2022

On Projectively in Markov Logic Networks, DKM Group Seminar
Weighted First-Order Model Counting, AAAI 2022@FBK Workshop

Programming Languages

Fluent: Python, Pandas, LTFX

Familiar: Mathematica, R, Pytorch, HTML

Research Interests

Exact and Approximate Probabilistic Inference Consistency of Probabilistic Inference Weighted Model Counting Structure Learning Exponential Random Graphs

Awards and Achievements

Bronze medal in TrackML particle tracking challenge on Kaggle.
Part of the winning team in Industrial Problem Solving using Physics
Awarded fully funded trip to Innovation Days-Innsbruck in StartUp Lab, Trento
Awarded full-Scholarship for the Joint Masters in Theoretical Physics at University of Trento and SISSA- Trieste (Declined)

Awarded Opera Universitaria Scholarship for Masters in Physics at University of Trento Amongst top 5% candidates in the Joint Entrance Screening Test- Physics 2016 among \sim 5000 candidates
Amongst top 5 % candidates in IIT Joint Admission Test for Masters in Physics 2016 among \sim 10000 candidates