

Masood Feyzbakhsh Rankooh

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Research Interests

- Automated Reasoning
- Knowledge Representation
- Machine Learning
- Satisfiability Checking
- Optimization
- Heuristic Search

Education

Ph.D. in Computer Engineering (Artificial Intelligence)

Sharif University of Technology, Tehran

M.Sc. in Computer Engineering (Artificial Intelligence)

Sharif University of Technology, Tehran

B.Sc. in Computer Engineering (Software)

Amirkabir University of Technology, Tehran

Work Experience

Postdoctoral Research Fellow

2022 - Present

Tampere University, Faculty of Information Technology and Communication Sciences

- Under supervision of Prof. Tomi Janhunnen

Postdoctoral Researcher

2019 - 2022

Aalto University, Department of Computer Science

- Under supervision of Prof. Jussi Rintanen

Invited Lecturer

2014 - 2019

Sharif University of Technology, Computer Engineering Department

- Teaching Artificial Intelligence and Compiler Design courses

Program Committee Member

- European Conference on Artificial Intelligence (ECAI): 2024, 2023 (**The “Quality Champion” Award, The “Personally commended” Award**).
- International Conference on Automated Planning and Scheduling (ICAPS): 2023.
- AAAI Conference on Artificial Intelligence (AAAI): 2023.
- International Joint Conference on Artificial Intelligence (IJCAI): 2020, 2021.

Honors and Awards

- **Winter 2005** Ranked 6th in the National Computer Olympiad for university students.
- **Winter 2005** Ranked 4th out of about 8,000 students in the National Graduate Studies Entrance Examination.

Research Experiences

Explaining AI via Logic (XAILOG), 2022 – 2024.

- Supervisor: Prof. Tomi Janhunnen, Faculty of Information Technology and Communication Sciences, Tampere University.

SAT-based Automated Reasoning, 2019 - 2022.

- Supervisor: Prof. Jussi Rintanen, Department of Computer Science, Aalto University.

Efficient SAT-based Planning, 2010 - 2019.

- Advisor: Dr. Gholamreza Ghassem-Sani, Computer Engineering Dep., Sharif University of Technology.

Using Complete Heuristic Search for State-Space Temporal Planning, September 2008 - 2019.

- Advisor: Dr. Gholamreza Ghassem-Sani, Computer Engineering Dep., Sharif University of Technology.

Modeling Emotions in Reinforcement Learning, Sharif University of Technology, June 2007 - September 2008.

- Advisor: Dr. Saeed Bagheri Shouraki, Computer Engineering Dep., Sharif University of Technology.

Temporal and Space Abstraction in Multi-Agent Reinforcement Learning Systems, Sharif University of Technology 2005 - 2007.

- Advisor: Dr. Saeed Bagheri Shouraki, Computer Engineering Dep., Sharif University of Technology.

Skills

Programming Languages: C/C++, JAVA, Python
Environments: Linux, Windows
CAD Tools: Matlab, R, Office

Natural Languages

Persian (Fluent) English (Fluent) French (Good)
Finnish (Good) Arabic (Good)

Selected Publications

1. Jussi Rintanen and Masood Feyzbakhsh Rankooh. Symmetry-Breaking Constraints for Directed Graphs. *26th European Conference on Artificial Intelligence (ECAI 2024)*.
2. Masood Feyzbakhsh Rankooh and Tomi Janhunen. Improved Encodings of Acyclicity for Translating Answer Set Programming into Integer Programming. *Thirty-Third International Joint Conference on Artificial Intelligence (IJCAI 2024)*.
3. Masood Feyzbakhsh Rankooh and Tomi Janhunen. Capturing (Optimal) Relaxed Plans with Stable and Supported Models of Logic Programs (Extended Abstract). *Thirty-Third International Joint Conference on Artificial Intelligence (IJCAI 2024)*.
4. Masood Feyzbakhsh Rankooh and Tomi Janhunen. Capturing (Optimal) Relaxed Plans with Stable and Supported Models of Logic Programs. *Theory and Practice of Logic Programming 23(4)*, pp. 782-796, 2023. **Best Paper Award at the 39th International Conference on Logic Programming (ICLP 2023)**.
5. Reijo Jaakkola, Tomi Janhunen, Antti Kuusisto, Masood Feyzbakhsh Rankooh, and Miikka Vilander. Short Boolean Formulas as Explanations in Practice. *Logics in Artificial Intelligence - 18th European Conference (JELIA 2023)*.
6. Anssi Yli-Jyrä, Masood Feyzbakhsh Rankooh, and Tomi Janhunen. Pruning Redundancy in Answer Set Optimization Applied to Preventive Maintenance Scheduling. *Practical Aspects of Declarative Languages - 25th International Symposium (PADL 2023)*.
7. Reijo Jaakkola, Tomi Janhunen, Antti Kuusisto, Masood Feyzbakhsh Rankooh, and Miikka Vilander. Explainability via Short Formulas: the Case of Propositional Logic with Implementation. *Joint Proceedings of the 1st International Workshop on HYbrid Models for Coupling Deductive and Inductive ReASONing (HYDRA 2022) and the 29th RCRA Workshop on Experimental Evaluation of Algorithms for Solving Problems with Combinatorial Explosion (RCRA 2022) co-located with the 16th International Conference on Logic Programming and Non-monotonic Reasoning (LPNMR 2022)*.
8. Masood Feyzbakhsh Rankooh and Tomi Janhunen. Efficient Computation of Answer Sets via SAT Modulo Acyclicity and Vertex Elimination. *Logic Programming and Nonmonotonic Reasoning - 16th International Conference (LPNMR 2022)*.
9. Masood Feyzbakhsh Rankooh and Jussi Rintanen. Efficient Computation and Informative Estimation of h+ by Integer and Linear Programming. *Proceedings of the Thirty-Second International Conference on Automated Planning and Scheduling (ICAPS 2022)*.
10. Masood Feyzbakhsh Rankooh and Jussi Rintanen. Efficient Encoding of Cost Optimal Delete-Free Planning as SAT, *36th AAAI Conference on Artificial Intelligence (AAAI 2022)*.
11. Masood Feyzbakhsh Rankooh and Jussi Rintanen. Propositional Encodings of Acyclicity and Reachability by Using Vertex Elimination, *36th AAAI Conference on Artificial Intelligence (AAAI 2022)*.
12. Masood Feyzbakhsh Rankooh and Gholamreza Ghassem-Sani. ITSAT: An Efficient SAT-Based Temporal Planner, *Journal of Artificial Intelligence Research (JAIR)*, Vol. 53, 2015, pp. 541-632.
13. Masood Feyzbakhsh Rankooh and Gholamreza Ghassem-Sani. New Encoding Methods for SAT-based Temporal Planning, *Proceedings of the 23rd International Conference on Automated Planning and Scheduling (ICAPS 2013)*.
14. Masood Feyzbakhsh Rankooh, Ali Mahjoob, and Gholamreza Ghassem-Sani. Using Satisfiability for Non-optimal Temporal Planning, *13th European Conference on Logics in Artificial Intelligence (JELIA 2012)*.
15. Masood Feyzbakhsh Rankooh and Gholamreza Ghassem-Sani. A Complete State-Space Based Temporal Planner, *Proceedings of the 23rd IEEE International Conference on Tools with Artificial Intelligence (ICTAI 2011)*.