

Meysam Aghighi

PERSONAL INFORMATION

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POSITION(S)

Postdoc, School of Computer Science and Communication, KTH Royal Institute of Technology, Sweden (2017 - present)

- The position is hosted by Jakob Nordström and is focused on SAT Solving.

EDUCATION

PhD in Computer Science, Department of Computer and Information Science, Linköping University, Linköping, Sweden (2014-2017)

- **Thesis**: “Computational Complexity of some Optimization Problems in Planning”, under the supervision of Prof. Peter Jonsson and Prof. Christer Bäckström

MSc in Artificial Intelligence, Department of Computer Engineering, Sharif University of Technology, Tehran, Iran (2011-2013)

- **Thesis**: “Learning Improvement in Phase Oscillator Models”, under the supervision of Prof. M.Jalili

BSc in Software Engineering, Department of Computer Engineering, Sharif University of Technology, Tehran, Iran (2005-2010)

- **Thesis**: “A Comparison of Different Lattices in the Protein Fitting Problem”, under the supervision of Prof. Ghodsi

Pre College, Young Scholars Club, Tehran, Iran (2004-2005)

High School, Diploma in Physics and Mathematics, Allameh Helli, Tehran, Iran (2001-2004)

HONORS AND AWARDS

- **1st place**, in Programming and Algorithms Contest* (IMPA), Linköping University, Linköping, Sweden, Fall 2016
* *Won a total prize of 2400SEK, sponsored by Autoliv, Ericsson, Ida Infront and Opera.*
- **10th place**, in the Computer Science field of nationwide MSc entrance exam among more than 11000 participants, Tehran, Iran, May 2010
- **1st place**, in Design and Analysis of Algorithms Contests* (2nd & 3rd), HerQless team, Sharif University of Technology, Tehran, Iran, April 2007
* *An ICPC-style programming contest.*
- Awarded as an **Outstanding Student** by the University’s President, June 2006.
- **Gold Medal***, in 22nd Iranian National Mathematical Olympiad, Tehran, Iran, July 2004
* *Awarded yearly to the top 12 high school students among more than 40000 participants. The subjects are Combinatorics, Number Theory, Algebra and Geometry.*

PUBLICATIONS

Journal Articles

1. Meysam Aghighi, Christer Bäckström, Peter Jonsson and Simon Ståhlberg. *Refining Complexity Analyses in Planning by Exploiting the Exponential-time Hypothesis*. In *Annals of Mathematics and Artificial Intelligence (AMAI)*, 2016.

Peer-Reviewed Conference Papers

1. Meysam Aghighi and Christer Bäckström. *Plan Reordering and Parallel Execution — A Parameterized Complexity View*. In *Proceedings of the 31st AAAI Conference on Artificial Intelligence (AAAI)*, San Francisco, California, USA, February 2017. *to appear*
2. Meysam Aghighi, Christer Bäckström, Peter Jonsson and Simon Ståhlberg. *Analysing Approximability and Heuristics in Planning Using the Exponential-time Hypothesis*. In *Proceedings of the 22nd European Conference on Artificial Intelligence (ECAI)*, The Hague, Holland, August 2016.
3. Meysam Aghighi and Christer Bäckström. *A Multi-parameter Complexity Analysis of Cost-optimal and Net-benefit Planning*. In *Proceedings of the 26th International Conference on Automated Planning and Scheduling (ICAPS)*, London, UK, June 2016.
4. Meysam Aghighi and Christer Bäckström. *Cost-optimal and Net-benefit Planning—A Parameterised Complexity View*. In *Proceedings of the 24th International Joint Conference on Artificial Intelligence (IJCAI)*, Buenos Aires, Argentina, July 2015.
5. Meysam Aghighi, Peter Jonsson and Simon Ståhlberg. *Tractable Cost-Optimal Planning over Restricted Polytree Causal Graphs*. In *Proceedings of the 29th AAAI Conference on Artificial Intelligence (AAAI)*, Austin Texas, USA, January 2015.
6. Meysam Aghighi and Peter Jonsson. *Oversubscription Planning: Complexity and Compilability*. In *Proceedings of the 28th AAAI Conference on Artificial Intelligence (AAAI)*, Québec City, Québec, Canada, July 2014.

Books

1. Five books (all in Persian) titled **250 Problems in Combinatorics**, **250 Problems in Number Theory**, **250 Problems in Geometry**, **250 Problems in Algebra**, **Introduction to Mathematical Olympiad through problem solving** Co-authored with Nasir Karimi, Nima Ahmadipour Anari, Morteza Saghafian; Fatemi Pub, 2009.

Theses

1. **PhD Thesis**, “Computational Complexity of some Optimization Problems in Planning”, June 2017
2. **MSc Thesis** (in Persian), “Learning Improvement in Phase Oscillator Models”, Jan 2013
3. **BSc Thesis** (in Persian), “A Comparison of Different Lattices in the Protein Fitting Problem”, Sep 2010

Miscellaneous

1. **Iranian National Mathematical Olympiad's Booklet 2011.***
Meysam Aghighi and Massoud Shafaei, 2011.
2. **Iranian National Mathematical Olympiad's Booklet 2010.***
Meysam Aghighi and Morteza Saghafian, 2010.
** This booklet was distributed among the team leaders of the International Mathematical Olympiad, according to the IMO traditions.*

WORK and TEACHING EXPERIENCES

- **Research Assistant**, Theoretical Computer Science Laboratory, Linköping University, Linköping, Sweden (2013-2014).
- **Member of the Scientific Committee**, Iranian Mathematical Olympiad, Tehran, Iran (2006-2013).
Designing problems, grading exams, holding problem solving sessions.
- **Teaching topics in Geometry to Iranian IMO participants**, Young Scholars Club, Tehran, Iran (2006-2013).
- **Teaching topics in Planar Geometry in several high schools**; Allameh Helli, Allameh Helli 3, Allameh Tabatabaei, Farzanegan, Salam, Mofid, Imam Hadi, etc. (2005-2013).
- **Researcher and Developer at Transportation Department**, Rah Shahr International Group, Tehran, Iran (2009-2011).
Developed a software written in C# to implement a methodology for rapid transit network design problem.

TEACHING ASSISTANT

- Computer Networks and Distributed Systems (Spring 2017, Spring 2016, Spring 2015)
Linköping University, Linköping, Sweden.
- Discrete Structures (Spring 2013, Spring 2012)
Sharif University of Technology, Tehran, Iran.
- Theory of Languages and Automata (Spring 2012)
Sharif University of Technology, Tehran, Iran.
- Neural Networks and Fuzzy Systems (Spring 2012)
Sharif University of Technology, Tehran, Iran.

TALKS

4. Computational Complexity of some Optimization Problems in Planning, PhD defense, June 2017, Linköping.
3. Complexity Results in Automated Planning, KTH CSC, April 2017, Stockholm.
2. A Multi-parameter Complexity Analysis of Cost-optimal and Net-benefit Planning, June 2016, ICAPS, London.
1. Cost-optimal and Net-benefit Planning – A Parameterized Complexity View, July 2015, IJCAI, Buenos Aires.

SKILLS

- Languages: Persian (Native), English (Fluent), Arabic (Familiar) and Swedish (Familiar)
- Programming:
Proficient: C/C++, Java
Familiar: C#, Pascal, Python, MATLAB, R, PDDL, HTML, XML, SQL
- Operating Systems: Linux, Mac OS X, Windows
- Writing: \TeX , \LaTeX , Microsoft Word

Last updated on September 12, 2017.