Jakub Tarnawski

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Research interests

- Graph algorithms, combinatorial optimization, approximation algorithms

Publications

- O. Svensson, J. Tarnawski and L. Végh. A Constant-Factor Approximation Algorithm for the Asymmetric Traveling Salesman Problem. *Preprint, 2017.*
- O. Svensson and J. Tarnawski. The Matching Problem in General Graphs is in Quasi-NC. In *58th Annual IEEE Symposium on Foundations of Computer Science (FOCS)*, 2017. **Best Paper Award**
- S. Mitrović, I. Bogunović, A. Norouzi Fard, J. Tarnawski and V. Cevher. Streaming Robust Submodular Maximization: A Partitioned Thresholding Approach. In *Neural Information Processing Systems (NIPS)*, 2017.
- A. Mosińska, J. Tarnawski and P. Fua. Active Learning and Proofreading for Delineation of Curvilinear Structures. In *20th International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI)*, 2017, oral presentation.
- C. Kalaitzis, O. Svensson and J. Tarnawski. Unrelated Machine Scheduling of Jobs with Uniform Smith Ratios. In *28th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA)*, 2017.
- O. Svensson, J. Tarnawski and L. Végh. Constant Factor Approximation for ATSP with Two Edge Weights. In *18th Conference on Integer Programming and Combinatorial Optimization (IPCO)*, 2016.
- A. Mądry, D. Straszak and J. Tarnawski. Fast Generation of Random Spanning Trees and the Effective Resistance Metric. In *26th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA)*, 2015.

Education

- École Polytechnique Fédérale de Lausanne, Switzerland – Doctoral Assistant (09.2014–present), Theory of Computation laboratory under supervision of Ola Svensson.
  - Simons Institute for the Theory of Computing – visiting graduate student (11–12.2017).
- École Polytechnique Fédérale de Lausanne, Switzerland – Summer@EPFL internship (07–08.2013), Theory of Computation laboratory under supervision of Aleksander Mądry.
- Faculty of Mathematics and Computer Science, University of Wrocław, Poland. Two majors: Computer Science and Mathematics, 2008–2014, MSc in both. GPA over 4.95/5.00.

Industry experience

- Facebook – Software Engineering Intern (07–09.2012, Seattle, USA). Traffic Infrastructure team. Performance optimization of the load balancing software that all of Facebook's web traffic passes through. Achieved a 30% gain in efficiency.

Invited talks

- Stanford University, USA (Nov 2017)
- Georgia Institute of Technology, USA (Oct 2017)
- ETH Zürich, Switzerland (Sep 2017)
- 8th Cargese-Porquerolles Workshop on Combinatorial Optimization, France (Sep 2017)
- University of Wrocław, Poland (Feb 2016)

Competitive programming

- Onsite finals of Facebook Hacker Cup 2014 and 2015 (top 25, Menlo Park)
- ACM ICPC World Finals 2013 (St. Petersburg) and 2014 (Ekaterinburg, 13th place out of over 12000 teams)
- 1st place in IEEEXtreme 10.0 2016 (out of ~2000 teams), 2nd place in 2015
- 1st place in Wielka Przesmycka 2016 (Wrocław; open individual championship of Poland)

Awards

- Scholarship of Polish Ministry of Education for academic achievements – 2008, 2011, 2013
- EU scholarship for top students – 2009, 2010, 2011
- Multiple scholarships for high GPA from University of Wrocław
- Honorable mention in competition for best Masters thesis in computer science (Polish Society of Informatics, 2016)

Other

- Teaching experience:
  - TA in Advanced Algorithms (02–06.2016, 02–06.2017), EPFL
  - TA in Algorithms (09–12.2015, head TA 09–12.2016, 09–12.2017), EPFL
  - supervised a Master semester project (02–06.2016), EPFL
  - TA in Theory of Computation (02–06.2015), EPFL
  - exercises in Algorithms and Data Structures (graduate level) (02–06.2014), U of Wrocław
  - supplementary tutorial in Logic For Computer Science for first-year students (10.2010–02.2011), U of Wrocław
- Reviewer for STOC 2018, STOC 2017, APPROX 2017, SWAT 2016, ESA 2014, Discrete Optimization (journal)
- Head of problemsetting team at Helvetic Coding Contest, an annual programming competition held at EPFL (2015–2017); same for Santa's Programming Challenge (2014–2017); contributed problems to Polish Collegiate Programming Contest (2015–2017)
- In high school, finalist of Polish Mathematical Olympiad, Olympiad of Technical Knowledge and Linguistics Olympiad (2008)
- Languages: fluent English, basic German and Russian, native Polish