Andrii Riazanov

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Education

2017–Present Ph.D. in Algorithms, Combinatorics, Optimization (4^{th} year)**, Carnegie Mellon University**, *Computer Science Department*.
Advisor: Venkatesan Guruswami

2013–2017 Bachelor of Science**, Moscow Institute of Physics and Technology**.
Department of Control and Applied Mathematics

Additional education

Sep 2016 – March 2017 **Yandex School of Data Analysis**.
Master's-level courses in computer science and data analysis
Department of Computer Science

Publications

V. Guruswami, A. Riazanov, M. Ye. "Arıkan meets Shannon: Polar codes with near-optimal convergence to channel capacity"
STOC 2020, arXiv:1911.03858.

V. Guruswami, A. Riazanov. "Beating Fredman-Komlós for perfect k-hashing"
ICALP 2019, ECCC TR18-096.

A. Riazanov, Y. Maximov, M. Chertkov. "Belief Propagation Min-Sum Algorithm for Generalized Min-Cost Network Flow"
ACC 2018, arXiv:1710.07600.

A. Riazanov, M. Vyalyiy. "Exploring the bounds on the positive semidefinite rank"
Manuscript (2017), arXiv:1704.06507.

A. Riazanov, M. Karasikov, S. Grudinin. "Inverse Protein Folding Problem via Quadratic Programming"
ITaS 2016, arXiv:1701.00673.

Internships

Jan 2017 – Mar 2017 **Research Internship**, *Los Alamos National Laboratory*, Theoretical Division.
*H*osts: Michael Chertkov, Yury Maximov.
Development and analysis of algorithms for network flow problems.

Oct 2016 – Aug 2017 **Research Intern**, *Skolkovo Institute of Science and Technology*, Center for Energy Systems.
Development of numerical optimization techniques for power flow problems.

Programming skills

Python (course projects, research projects, data analysis, numerical optimization)

C/C++ (course projects, algorithms)

Matlab (research projects, numerical optimization)

Teaching Experience

Spring 2020 **Teaching Assistant**, *Carnegie Mellon University*.
15-750, Graduate Algorithms

Fall 2019 **Teaching Assistant**, *Carnegie Mellon University*.
15-455, Undergraduate Complexity Theory

Spring 2017 **Teaching Assistant**, *Moscow Institute of Physics and Technology*.
Seminars on *Algorithms* for undergraduate students

Awards and Honors

2020 **Google Hash Code**, *finalist team, scored 10^{th} out of 10,000 teams in qualification round*.

Fall 2016 – Spring 2017 **Increased State Academic Scholarship**, *for research achievements*.

Spring 2014 - Spring 2016 **Abramov Fund Scholarship**, *for learning progress and achievements*.

2013 **International Mathematical Olympiad (IMO)**, *Bronze Medal*, Colombia, Santa Marta.

2011, 2012, 2013 **National Ukrainian Olympiad in Mathematics**, *1st, 3rd, 2nd Diplomas*, Ukraine.