ELNUR GASANOV

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EDUCATION

Ph.D. in Machine Learning and Optimization   Jan. 2020 - Present
King Abdullah University of Science and Technology
Supervised by Peter Richtárik

Master of Science in Computer Science   Sep. 2018 - Dec. 2019
King Abdullah University of Science and Technology
GPA: 3.67/4.00

Bachelor of Science in Applied Mathematics and Physics   Sep. 2014 - Jun. 2018
Moscow Institute of Physics and Technology (State University)
Average Grade: 8.66/10.00

PUBLICATIONS

3PC: Three Point Compressors for Communication-Efficient Distributed Training and a Better Theory for Lazy Aggregation
Peter Richtárik, Igor Sokolov, Ilyas Fatkhullin, <u>Elnur Gasanov</u>, Zhize Li, Eduard Gorbunov

- https://arxiv.org/abs/2202.00998

FLIX: A Simple and Communication-Efficient Alternative to Local Methods in Federated Learning
<u>Elnur Gasanov</u>, Ahmed Khaled, Samuel Horvath, Peter Richtárik

- Proceedings of the 25th International Conference on Artificial Intelligence and Statistics (AISTATS 2022)
- https://arxiv.org/abs/2111.11556

Lower Bounds and Optimal Algorithms for Smooth and Strongly Convex Decentralized Optimization Over Time-Varying Networks
Dmitry Kovalev, <u>Elnur Gasanov</u>, Alexander Gasnikov, Peter Richtárik

- Proceedings of the 35th Conference on Neural Information Processing Systems (NeurIPS 2021)
- https://arxiv.org/abs/2106.04469

From Local SGD to Local Fixed-Point Methods for Federated Learning
Grigory Malinovsky, Dmitry Kovalev, <u>Elnur Gasanov</u>, Laurent Condat, Peter Richtárik

- Proceedings of the 37th International Conference on Machine Learning (ICML 2020)
- https://arxiv.org/abs/2004.01442

Stochastic Spectral and Conjugate Descent Methods
Dmitry Kovalev, Eduard Gorbunov, <u>Elnur Gasanov</u>, Peter Richtárik

- Proceedings of the 32th Conference on Neural Information Processing Systems (NeurIPS 2018)
- https://arxiv.org/abs/1802.03703

Creation of approximating scalogram description in a problem of movement prediction
<u>Elnur Gasanov</u>, Anastasia Motrenko

- "Machine Learning and Data Analysis", Vol. 3, #2, 2017
- http://jmlda.org/papers/doc/2017/no2/Gasanov2017ECoGAnalysis.pdf (in russian)

RESEARCH INTERNSHIPS

Visiting scholar   June 2019 - July 2019
University of Grenoble-Alpes, Laboratory Jean Kuntzmann
Supervised by Prof. Jerome Malick and postdoctoral fellow Franck Lutzeler, I worked on an asynchronous lock-free algorithm, derived convergence rates for full and stochastic gradient cases. For the second case, I analyzed the algorithm for both constant and diminishing stepsizes.

HONORS AND REWARDS

Enlarged state academic scholarship, 2017-2018
Abramov fund excellence scholarship, 2014-2017
Governor's award, 2012-2014
Prize-winner of All-Russia Physics Olympiad (Regional step, Moscow region, 2012 - 2014)
Prize-winner of All-Russia Maths Olympiad (Regional step, Moscow region, 2012, 2014)
Prize-winner of All-Russia Economics Olympiad (Regional step, Moscow region), 2013
Prize-winner of competition "Future Scientists" (Moscow), physics section

CO-CURRICULAR COURSES AND ACTIVITIES

Deep Learning Nanodegree, Udacity, 2019

- Topics covered: PyTorch, Convolutional and Recurrent Neural Networks, GAN, Deployment using AWS

- Taught by Ian Goodfellow, Mat Leonard, Cezanne Comacho

Seminar Co-organizer, All hands meetings on Big Data Optimization, September 2019 - Present

- Co-organizer of a group seminar

SKILLS

Mathematics	Linear Algebra, Theory of Algorithms, Machine Learning, Deep Learning
Programming	C++, Python (NumPy, Matplotlib, PyTorch, Pandas), Matlab, Golang
Tools	MS Office, LaTeX, SQL Server
Languages	Russian C2, English C1

EXTRA CURRICULARS AND HOBBIES

Hobbies: Fitness, Volleyball
Volunteer: National Park Hunsrueck II, Deuselbach, Germany, 2017
Volunteer: Environment and Legality at Vesuvio National Park, Ottaviano, Italy, 2016
Volunteer: University "5top100" conference, 2016
Volunteer: Promoting Biodiversity in Neckertal, Brunnadern SG, Switzerland, 2015