Dmitry **Kovalev**

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Education

King Abdullah University of Science and Technology	*Thuwal, Saudi Arabia*
PHD IN COMPUTER SCIENCE	*Jan. 2020 - PRESENT*

King Abdullah University of Science and Technology	*Thuwal, Saudi Arabia*
MS IN COMPUTER SCIENCE	*Sep. 2018 - Dec. 2019*

Moscow Institute of Physics and Technology	*Moscow, Russia*
BSC IN APPLIED MATHEMATICS AND PHYSICS	*Sep. 2014 - Jun. 2018*

Skills

Programming	C/C++, Python, Go
Mathematics	Calculus, Linear Algebra, Probability and Statistics

Honors & Awards

2015-2017	**Abramov's Fund Scholarship**, for top students of Moscow Institute of Physics and Technology	*Moscow, Russia*
2014	**Honourable Mention**, APhO (Asian Physics Olympiad)	*Singapore*
2014	**Prize-Winner**, All-Russian School Physics Olympiad, Final Round	*Saint Petersburg, Russia*
2014	**Winner**, All-Russian School Programming Olympiad, Region Round	*Moscow, Russia*
2014	**Winner**, All-Russian School Math Olympiad, Region Round	*Moscow, Russia*
2012-2014	**Russian President's Scholarship**, for high school students	*Russia*
2012-2014	**Moscow Governor's Scholarship**, for high school students	*Moscow, Russia*
2013	**Winner**, All-Russian School Physics Olympiad, Final Round	*Vladivostok, Russia*
2012	**Prize-Winner**, All-Russian School Physics Olympiad, Final Round	*Saransk, Russia*

Papers

From Local SGD to Local Fixed Point Methods for Federated Learning

GRIGORY MALINOVSKY, DMITRY KOVALEV, ELNUR GASANOV, LAURENT CONDAT, PETER RICHTÁRIK   *Apr. 2020*

• arXiv 2020

Acceleration for Compressed Gradient Descent in Distributed and Federated Optimization

ZHIZE LI, DMITRY KOVALEV, XUN QIAN, PETER RICHTÁRIK   *Feb. 2020*

• arXiv 2020

Fast Linear Convergence of Randomized BFGS

DMITRY KOVALEV, ROBERT M. GOWER, PETER RICHTÁRIK, ALEXANDER ROGOZIN   *Feb. 2020*

• arXiv 2020

Variance Reduced Coordinate Descent with Acceleration: New Method With a Surprising Application to Finite-Sum Problems

FILIP HANZELY, DMITRY KOVALEV, PETER RICHTÁRIK   *Feb. 2020*

• arXiv 2020

Distributed Fixed Point Methods with Compressed Iterates

SÉLIM CHRAIBI, AHMED KHALED, DMITRY KOVALEV, PETER RICHTÁRIK, ADIL SALIM, MARTIN TAKÁČ   *Dec. 2019*

• arXiv 2019

Stochastic Newton and Cubic Newton Methods with Simple Local Linear-Quadratic Rates

DMITRY KOVALEV, KONSTANTIN MISHCHENKO, PETER RICHTÁRIK *Dec. 2019*

- NeurIPS 2019 Workshop: Beyond First Order Methods in Machine Learning
- arXiv 2019

Accelerated methods for composite non-bilinear saddle point problem

MOHAMMAD ALKOUSA, DARINA DVINSKIKH, FEDOR STONYAKIN, ALEXANDER GASNIKOV, DMITRY KOVALEV *Dec. 2019*

- arXiv 2019

Stochastic Proximal Langevin Algorithm: Potential Splitting and Nonasymptotic Rates

ADIL SALIM, DMITRY KOVALEV, PETER RICHTÁRIK *May 2019*

- NeurIPS 2019

Revisiting Stochastic Extragradient

KONSTANTIN MISHCHENKO, DMITRY KOVALEV, EGOR SHULGIN, PETER RICHTÁRIK, YURA MALITSKY *May 2019*

- NeurIPS 2019 Workshop: Bridging Game Theory and Deep Learning
- arXiv 2019
- Accepted to AISTATS 2020

RSN: Randomized Subspace Newton

ROBERT M. GOWER, DMITRY KOVALEV, FELIX LIEDER, PETER RICHTÁRIK *May 2019*

- NeurIPS 2019

Stochastic Distributed Learning with Gradient Quantization and Variance Reduction

SAMUEL HORVÁTH, DMITRY KOVALEV, KONSTANTIN MISHCHENKO, PETER RICHTÁRIK, SEBASTIAN U. STICH *Jan. 2019*

- arXiv 2019

Don't Jump Through Hoops and Remove Those Loops: SVRG and Katyusha are Better Without the Outer Loop

DMITRY KOVALEV, SAMUEL HORVÁTH, PETER RICHTÁRIK *Jan. 2019*

- arXiv 2019
- Accepted to ALT 2020

A hypothesis about the rate of global convergence for optimal methods (Newton's type) in smooth convex optimization

ALEXANDER GASNIKOV, DMITRY KOVALEV *Feb. 2018*

- Computer Research and Modeling, 2018, Volume 10, Issue 3, Pages 305–314

Stochastic Spectral and Conjugate Descent Methods

DMITRY KOVALEV, EDUARD GORBUNOV, ELNUR GASANOV, PETER RICHTÁRIK *Feb. 2018*

- NeurIPS 2018

Conferences & Talks

ICCOPT 2019 *TU, Berlin, Germany*
TALK: «REVISITING STOCHASTIC EXTRAGRADIENT METHOD» *5 Aug. 2019*

Data Science Summer School 2019 *École polytechnique, Paris, France*
POSTER: «STOCHASTIC DISTRIBUTED LEARNING WITH GRADIENT QUANTIZATION AND VARIANCE REDUCTION» *26 Jun. 2019*

Traditional School (Control, Information and Otimization) *Voronovo, Moscow Region, Russia*
POSTER: «STOCHASTIC DISTRIBUTED LEARNING WITH GRADIENT QUANTIZATION AND VARIANCE REDUCTION» *20 Jun. 2019*

Weekly seminar «Automatic control and Optimization Theory» *IPU, Moscow, Russia*
TALK: «STOCHASTIC SPECTRAL AND CONJUGATE DESCENT METHODS» *26 Mar. 2019*

Seminar «Modern Optimization Methods»

Talk: «Stochastic Distributed Learning with Gradient Quantization and Variance Reduction»

Traditional School (Control, Information and Otimization)

Poster: «Stochastic Spectral Descent Methods»

Optimization and Big Data Workshop

Poster: Stochastic Spectral Descent Methods