Contact Georgia Institute of Technology

Information School of Mathematics

H. Milton Stewart School of Industrial & Systems Engineering (ISyE)

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WEBSITE ostrodmit.github.io

OTHER LINKS: Scholar • GitHub • YouTube

RESEARCH INTERESTS

• Optimization theory:

nonconvex minimax problems; acceleration under non-Euclidean geometries.

• Learning theory:

fast rates in statistical and online learning; applications of self-concordance.

• Mathematical statistics:

high-dimensional, robust, and adaptive estimation and hypothesis testing.

• Information theory:

information-theoretic techniques in optimization, statistics, combinatorics.

• Signal processing:

sparse recovery; super-resolution; estimation with shift-invariant structure.

Current

# Tenure-Track Assistant Professor

since 08/2023

Position Georgia Tech – School of Mathematics ( $\times 2/3$ )

Georgia Tech – H. Milton Stewart School of Industrial and Systems Engineering ( $\times 1/3$ )

PREVIOUS POSITIONS

## **Assistant Professor of Mathematics**

08/2021-07/2023

POSITIONS U. of Southern California – Department of Mathematics (promoter: Stanislav Minsker)

Postdoctoral Scholar

08/2019-08/2021

U. of Southern California – Viterbi School of Engineering (host: Meisam Razaviyayn)

ERCIM Alain Bensoussan Postdoctoral Fellow

02/2018-06/2019

INRIA Research Center in Paris – SIERRA Project-Team (host: Francis Bach)

DEGREES

### PhD – Université Grenoble Alpes

10/2014-01/2018

Thesis: Adaptive Signal Recovery by Convex Optimization

Advisors: Anatoli Juditsky, Zaid Harchaoui (University of Washington)

MSc – Moscow Institute of Physics and Technology

09/2012-08/2014

09/2008-08/2012

Thesis: Concentration Inequalities for the Exponential Weighting Method

Advisor: Yuri Golubev (Univ. Aix-Marseille, IITP RAS)

BSc – Moscow Institute of Physics and Technology

Thesis: Analytical Study of NHDP Link Management Protocol Advisors: Andrey Lyakhov & Evgeny Khorov (IITP RAS)

#### PREPRINTS

Amplitude Maximization in Stable Systems, Schur Positivity, and Some Conjectures on Polynomial Interpolation

D. Ostrovskii, P. Shcherbakov arXiv:2508/13554, 2025

Near-Optimal and Tractable Estimation under Shift-Invariance

D. Ostrovskii arXiv:2411.03383, 2024

Nonconvex-Nonconcave Min-Max Optimization with a Small Maximization Domain D. Ostrovskii, B. Barazandeh, M. Razaviyayn arXiv:2110.03950, 2021

Near-Optimal Procedures for Model Discrimination with Non-Disclosure Properties D. Ostrovskii, M. Ndaoud, A. Javanmard, M. Razaviyayn arXiv:2012.02901, 2020

Efficient Primal-Dual Algorithms for Large-Scale Multiclass Classification

D. Babichev, D. Ostrovskii, F. Bach. arXiv:1902.03755, 2019

Structure-Blind Deconvolution via Convex Optimization D. Ostrovskii, A. Juditsky *Available on request*, 2018

### BOOK CHAPTER

Adaptive Denoising of Signals with Shift-Invariant Structure

D. Ostrovskii, Z. Harchaoui, A. Judistky, A. Nemirovski arXiv:1806.04028 Foundations of Modern Statistics: V. Spokoiny's 60th Anniversary Festscrift

#### Journal Papers

Efficient and Near-Optimal Online Portfolio Selection R. Jézéquel, D. Ostrovskii, P. Gaillard arXiv:2209.13932 Mathematics of Operations Research, 2025 (to appear)

Efficient Search of First-Order Nash Equilibria in Nonconvex-Concave Smooth Min-Max Problems

D. Ostrovskii, A. Lowy, M. Razaviyayn arXiv:2002.07919 SIAM Journal on Optimization, 31:4, pp. 2508-2538, 2021

Finite-Sample Analysis of M-Estimators Using Self-Concordance

D. Ostrovskii, F. Bach arXiv:1810.06838

Electronic Journal of Statistics, 15:1, pp. 326-391, 2021

Concentration Inequalities for the Exponential Weighting Method

Y. Golubev, D. Ostrovskii hal-01292413

Mathematical Methods of Statistics, 23:1, pp. 20-37, 2014

A Dynamic Channel Reservation Method for Multimedia Streaming in Wi-Fi Mesh Networks

A. Krasilov, A. Lyakhov, D. Ostrovskii, E. Khorov

Automation and Remote Control, 74:9, pp. 1460-1473, 2013

Analytical Study of the Quality of Links Established by the Neighbourhood Discovery Protocol

A. Lyakhov, D. Ostrovskii, E. Khorov

Journal of Communications Technology and Electronics, 57:12, pp. 1314-1321, 2012

REFEREED CONFERENCE PAPERS Affine Invariant Covariance Estimation for Heavy-Tailed Distributions

D. Ostrovskii, A. Rudi arXiv:1902.03086

COLT 2019

Beyond Least-Squares: Fast Rates for Regularized Empirical Risk Minimization through Self-Concordance

U. Marteau-Ferey, D. Ostrovskii, A. Rudi, F. Bach arXiv:1902.03046 COLT 2019

Efficient First-Order Algorithms for Adaptive Signal Denoising D. Ostrovskii, Z. Harchaoui arXiv:1803.11262 ICML 2018

Structure-Blind Signal Recovery

D. Ostrovskii, Z. Harchaoui, A. Juditsky, A. Nemirovski $\mathtt{arXiv:} 1607.05712$  NeurIPS 2016

Adaptive Recovery of Signals by Convex Optimization Z. Harchaoui, A. Juditsky, A. Nemirovski, D. Ostrovskii hal-01250215 COLT 2015

Dynamic Resource Allocation for MCCA-Based Streaming in Wi-Fi Mesh Networks E. Khorov, A. Krasilov, A. Lyakhov, D. Ostrovskii WiFlex 2013

Analytical Study of Neighborhood Discovery and Link Management in OLSR E. Khorov, A. Kiryanov, A. Lyakhov, D. Ostrovskii IFIP 2012

### Reviewing

Journals: Math. Programming (MAPR), SIAM J. on Optimization (SIOPT), Ann. of Statist. (AoS), IEEE Trans. on Inform. Theory (IEEE-IT), Math. of Operations Research (MOR), J. of Machine Learning Research (JMLR), Computational Optim. & Appl. (COAP), Optim. Methods & Software (OMS), J. of Computational & Graphical Statistics (JCGS). Conferences (occasionally): NeurIPS, ICML, STOC, COLT, ALT.

### TEACHING Georgia Tech:

2025, Fall:	High-Dimensional Statistics (Math 7252)	$15 \times 1, 2.5 \text{ hrs/wk}$
2025, Spg:	Special Topics in Modern Math. Data Science (IS	SyE 8803) 2.5 hrs/wk
2024, Fall:	Differential Equations (Math 2552)	100× <b>‡</b> , 2 hrs/wk
2024, Spg:	Statistical Estimation (Math 6262)	2.5  hrs/wk
2023, Fall:	Introduction to Linear Algebra (Math 1553)	100× <b>‡</b> , 2 hrs/wk

## University of Southern California:

2023, Spg:	Analysis of Variance and Regression (Math 542)	3  hrs/wk
2022, Fall:	Introduction to Mathematical Statistics (Math 541b)	$15 \times 1, 3 \text{ hrs/wk}$
2022, Smr:	Linear Algebra and Differential Equations (Math 225)	12× <b>i</b> , 6 hrs/wk
2022, Spg:	Elementary Probability and Statistics (Math 208)	34× <b>i</b> , 3 hrs/wk
2021, Fall:	Introduction to Mathematical Statistics (Math 541b)	$10 \times 1, 3 \text{ hrs/wk}$
2019-2021:	Optimization for Machine Learning (invited lectures)	$10 \times 1$ , 2 hrs/mo

# Université Grenoble Alpes (in French):

2017, Spg:	Calculus for Science and Engineering ("Cours-TD")	$30 \times 1, 3 \text{ hrs/wk}$
2016, Spg:	Calculus for Science and Engineering ("Cours-TD")	30× <b>i</b> , 3 hrs/wk
2016, Spg:	Statistical Methods for Biology & Medicine ("TP")	28× <b>4</b> , 3 hrs/wk

ORGANIZATION	GT Stochastics Seminar (one of the main-organizers, since Fall 2024)  Invited speakers: Gil Kur (ETH Zurich), Stanislav Minsker (USC), Anatoli Juditsky (Grenoble-Alpes), Alexander Goldenshluger (Haifa), Elizaveta Rebrova (Princeton)  Upcoming: Alex Wein (UCD), Artem Zvavitch (Kent State), Mark Sellke (Harvard)			
	GT Mathematics Colloquium (2023–2024, occasionally)  Speakers: Weijing Liao (Georgia Tech), Suvrit Sra (MIT)  GT ISyE Seminar (2023–2024, occasionally)  Speakers: Nikita Zhivotovskiy (Berkeley), Victor de la Peña (Columbia)			
	USC Probability & Statistics Seminar (2022–2023, main organizer)  Speakers: Mateo Díaz (Caltech), Misha Belkin (UCSD), Robi Bhattachargee (UCSD), Yian Ma (UCSD), Qiyang Han (Rutgers), Masoud Zargar (USC), Andrew Lowy (USC)			
REU PROGRAM	Michael Zuo (Summer 2024)			
LONG-TERM VISITS	Université Grenoble Alpes – Anatoli Juditsky, Roland Hildebrand Centrum Wiskunde & Informatica – Peter Grünwald Centrum Wiskunde & Informatica – Peter Grünwald University of Washington – Zaid Harchaoui  12/2022–01/20 06/20 12/2016–05/20			
$\mathrm{Talks}^1$	2025			
	TBA: Kent State – Analysis Seminar TBA: Georgia Tech, School of Mathematics – Probability Working Seminar ICCOPT 2025, Los Angeles Georgia Tech, School of Mathematics – Joint Stochastics & Analysis Seminar	i i i,s		
	SIAM Conference on Optimization 2023, Seattle	i		
	Georgia Tech, School of ISyE – Job Candidate Seminar			
	ENSAE, Paris – Job Candidate Seminar	i,j		
	Toulouse School of Economics – Job Candidate Seminar	j,z		
		i,j		
	Georgia Tech, School of Mathematics – Job Candidate Seminar Optimization and Statistical Learning 2023, Les Houches	i,j i		
	2022			
	Meeting in Mathematical Statistics 2022, Luminy	i		
	CNRS AI Rising Talents – Job Interview (selected among the top 3)	j,z		
	INFORMS Annual Meeting, Indianapolis	i		
	Georgia Tech – Stochastic Seminar	i		
	Georgia Tech – ISyE 8813 Guest Lecture	i,z		
	Statistical Inference and Convex Optimization (SICO 2022), Grenoble University of Southern California – Mathematical Finance Colloquium	i,z		
	École Polytechnique, Paris	j,z		
	INFORMS Optimization Society Conference (IOS 2022), Greenville	S		
	Johns Hopkins University – AMS Seminar	j,z		
	University of Cambridge - Statlah Seminar	j 7		

Legend: i – invited talk, z – via Zoom, p – poster presentation, j – job talk, s – session chaired.

j,z

 ${\bf University\ of\ Cambridge-StatLab\ Seminar}$ 

	2021		
	University of Washington – IFDS semina	ur	i,z
	Johns Hopkins University – AMS semina		i
	Southern California Probability Symposi		i,z
	Higher School of Economics, Moscow	,	i
	Universitat Pompeu Fabra, Barcelona		j,z
	EPFL, Institute of Mathematics		j,z
	Weierstrass Institute, Berlin		i,z
	École Polytechnique, Paris $(\times 2)$		j,z
	2018–2020		
	University of Southern California – Epste COLT 2019, Phoenix	ein Seminar	
	Optimization and Statistical Learning 20	019. Les Houches	р
	Toyota Technological Institute, Chicago		j
	ICML 2018, Stockholm		p
	Optimization and Learning Workshop 20	18, Toulouse	p
	CWI-Inria workshop 2018, Paris		_
	ICML 2018, Stockholm		
	CWI seminar, Amsterdam		
	SIERRA team seminar, INRIA Paris		
	PhD defense, Université Grenoble Alpes		
	2015–2017		
	Optimization Without Borders 2017, Les	s Houches	
	NeurIPS 2016, Barcelona		р
	Université Grenoble Alpes		1
	University of Göttingen		j
	IRIT, Toulouse		j
	Princeton – ORFE Seminar		j
	University of Washington, Seattle		
	PGMO Days 2016, Paris		
	COLT 2015, Paris		
	StatLearn 2015, Grenoble		
Honors	NeurIPS 2019 Best Reviewer (awarded to	o 400 reviewers out of 4500+)	
& Awards	COLT 2019 Travel Award		
	HDSI Postdoctoral Fellowship at UC San Diego, 2019–2021 (declined)		
	ERCIM Alain Bensoussan Postdoctoral Fellowship, 2018–2019		
	NVIDIA GPU Grant, 2017		
	NIPS 2016 Travel Award	2011	
	Abramov-Frolov Fund Scholarship, 2009-	-2011	
Languages	English	Russian	
	<ul> <li>quasi-bilingual proficiency</li> </ul>	• mother tongue	
	French	German	
	• fluent	$\bullet$ intermediate	