

ARSHAK MINASYAN

pointguard0.github.io

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MAIN RESEARCH INTERESTS

1. High-dimensional statistics
2. Robust Statistics
3. Statistical Learning Theory

ACADEMIC POSITIONS

CREST-ENSAE, IP Paris

Postdoctoral fellow

Host: Arnak Dalalyan

Paris, France

September 2021 - present

ADVANCE Grant Program: Machine Learning Group

Senior Researcher

Junior Researcher

Yerevan, Armenia

September 2021 – present

September 2020 – September 2021

YerevaNN Research Lab¹

Machine Learning Researcher

Yerevan, Armenia

September 2018 – September 2021

EDUCATION

Yerevan State University (YSU)

PhD in Mathematics

Thesis title: *Robust Minimax Estimation within the Domain of Computational Tractability*

Yerevan, Armenia

January 2021

Skolkovo Institute of Science and Technology (SkolTech)

Master of Science in Mathematics with *Academic Excellence* and *Best Thesis Awards*

Moscow, Russia

June 2018

Yandex School of Data Analysis (YSDA)

Master of Science in Computer Science (concurrent with the last year of HSE)

Moscow, Russia

June 2017

National Research University Higher School of Economics (HSE)

Major in Mathematics with *Academic Excellence Award*, 2nd/320

Moscow, Russia

June 2016

PUBLICATIONS

9. A. Minasyan, N. Zhivotovskiy. Statistically Optimal Mean Estimation for Nonisotropic Gaussians under Adversarial Contamination. *arXiv preprint arXiv:2301.09024 (submitted to AOS)*, 2023.
8. A. Minasyan, T. Galstyan, S. Hunanyan, A. Dalalyan. Matching Map Recovery with an Unknown Number of Outliers. *Accepted to AISTATS*, 2023.
7. A.-H. Bateni, A. Minasyan, A. Dalalyan. Nearly minimax robust estimator of the mean vector by iterative spectral dimension reduction, *arXiv preprint arXiv:2301.09024 (submitted to JRSS-B)*, 2022.
6. T. Galstyan, A. Minasyan, A. Dalalyan. Optimal detection of the feature matching map in presence of noise and outliers, *Electronic Journal of Statistics*, 16 (2): 5720-5750, 2022.
5. A. Dalalyan, A. Minasyan. All-In-One Robust Estimator of the Gaussian Mean, *Annals of Statistics*, 50 (2), 1193-1219, 2022.
4. T. Galstyan, A. Minasyan. On Random Weighted Sum of Positive Semi-Definite Matrices, *Proceedings of the YSU A: Physical and mathematical sciences*. 54, 96–100, 2020.
3. A. Minasyan. Excess-Risk consistency of group-hard thresholding estimator in Robust Estimation of Gaussian Mean, *Journal of Contemporary Mathematical Analysis*, 55, 208–212, 2020.
2. A. Minasyan, B. Polyak. Minimization over Stiefel manifold: Robust PCA and eigenvalue problem. *submitted to Computational Optimization and Applications*, 2020.
1. A. Minasyan. Alternating Least Squares for Generalized Linear Models. *Journal of Contemporary Mathematical Analysis*, 54, 302–321, 2019.

¹<https://yerevannn.com/>

INTERNSHIPS

CREST-ENSAE, IP Paris

Visiting Scholar

Paris, France

May 2019 - July 2019

Host: Arnak Dalalyan

Yandex LLC

Machine Learning Intern, Yandex.Weather team

Moscow, Russia

June 2017 – September 2017

Institute for Information Transmission Problems (IITP)

Junior Researcher

Moscow, Russia

June 2016 - June 2018

Host: Vladimir Spokoiny

International Laboratory of Stochastic Analysis and its Applications, HSE

Research Assistant

Moscow, Russia

June 2015 - May 2016

Host: Valentin Konakov

CONFERENCES, TALKS, AND WORKSHOPS

Optimal Transport, Statistics, Machine Learning and moving in between

2022, Eindhoven, Netherlands

International Conference on Computational Statistics (COMPSTAT)

2022, Bologne, Italy

Hi! PARIS Summer School

2022, Paris, France

International Symposium on Nonparametric Statistics

2022, Paphos, Cyprus

Princeton Machine Learning Theory Summer School

2022, Princeton, USA

Meeting in Mathematical Statistics

2021, Luminy, France

Modern methods of information theory and optimization

2021, Sochi, Russia

International Conference Dedicated to the 100th Anniversary of YSU

2019, Yerevan, Armenia

Science and Technology Convergence Conference. NAS RA

2019, Yerevan, Armenia

Structural Inference in High-Dimensional Models 2

2019, Saint-Petersburg, Russia

21st European Young Statisticians Meeting

2019, Belgrade, Serbia

9th Lisbon Machine Learning School

2019, Lisbon, Portugal

12th International Conference on Numerical Optimization and Numerical Linear Algebra

2019, Jiangxi, China

International Conference on Mathematical Optimization

2019, Beijing, China

XIII Annual Research Conference

2018, Yerevan, Armenia

Science and Technology Convergence. NAS RA

2018, Yerevan, Armenia

Structural Inference in High-Dimensional Models. Higher School of Economics

2018, Moscow, Russia

Summer School in Machine Learning. Yerevan State University

2018, Yerevan, Armenia

Summer School in Random Matrices. University of Michigan

2018, Michigan, USA

Summer School: Information theory: Inequalities, Distances and Analysis

2018, Paris, France

New frontiers in high-dimensional probability and statistics

2018, Moscow, Russia

Yerevan State University (YSU) 4th International Conference

2017, Yerevan, Armenia

Generation-Y Conference

2017, Sochi, Russia

Introductory Workshop: Phenomena in high dimensions

2017, Berkeley, USA

Gene Golub Siam Summer School 2017 Annual Meeting

2017, Berlin, Germany

Summer School on Lèvy Processes

2016, Lille, France

Bayesian Statistics and Algorithms (Thematic Month on Statistics - Week 5)

2016, Marseille, France

Workshop on Group Representation in Dynamical Systems and Geometry

2015, Marseille, France

TEACHING

Yerevan State University (YSU)

Yerevan, Armenia

- Teaching Assistant in “Probability Theory I” Fall 2019-2020
- Teaching Assistant “Stochastic Processes” Fall 2020
- Lecturer of “High-dimensional Statistics” Spring 2020
- Teaching Assistant in “Probability Theory II” Spring 2020

Skolkovo Institute of Science and Technology (SkolTech)

Moscow, Russia

- Teaching Assistant in “Biostatistics” Spring 2018

National Research University Higher School of Economics (HSE)

Moscow, Russia

- Head Teaching Assistant in “Statistical Methods in Machine Learning” Fall 2017
- Head Teaching Assistant in “Statistics of Stochastic Processes” Spring 2017, 2018
- Teaching Assistant in “Probability Theory and Statistics I, II” 2014, 2015

AWARDS, HONORS AND ACHIEVEMENTS

EIF PhD Support Program

2020–2021, Yerevan

Research Grant for Young Scientists by Science Committee of Armenia

2020–2021, Yerevan

FAST Research Travel Grant

2019, Yerevan

Best Thesis Award at Skoltech

2018, Moscow

Best Speech Award in YSU 4th International Conference

2017, Yerevan

Best Undergraduate Research Award at HSE

2016, Moscow

HSE Olympiad in Applied Mathematics and Informatics: 2nd prize, 2nd absolute place

2015–2016, Moscow

Moscow Institute of Physics and Technology (MIPT) Olympiad in Mathematics: 1st prize

2016, Moscow

Jaguar Game Changer Scholarship Winner

2015, Moscow

International Mathematical Olympiad (IMO): Participation and Honourable Mention

2011, Amsterdam

International Zhautykov Olympiad (IZhO): Bronze medal

2011, Almaty

SERVICE

I co-organizer StatEcoML seminar held in ENSAE-CREST and Yerevan Machine Learning Reading Group.

I am a reviewer for

- **Conferences:** ALT, COLT, ICML, NeurIPS.
- **Journals:** Bernoulli, Annals of Statistics, Electronic Journal of Statistics.

SKILLS

Programming: C/C++, Python, Julia, R, MATLAB, Mathematica, Git, Vim, \LaTeX .

Foreign Languages: Bilingual in Armenian and Russian. Fluent in English and French.