

Avetik KARAGULYAN

PERSONAL DATA

ADDRESS: Al-Khawarizmi Building, KAUST,
Thuwal 23955-6900, Kingdom of Saudi Arabia
PHONE: +966565941461
EMAIL: auavetik@gmail.com
WEBSITE: avetx.github.io

WORK EXPERIENCE

CURRENT Nov 2021	Postdoctoral fellow at KAUST <i>Optimization and Machine Learning Lab supervised by Peter Richtàrik</i>
SEPT 2018 - MAY 2021	ENSAE <i>Teaching Associate of Probability theory, Statistics, Functional analysis, Measure theory and Intro to ML courses</i>
APR - SEPT 2018	Research intern at ENSAE/CREST <i>Supervised by Arnak Dalalyan</i>
JUN - AUG 2017	Innovative Solutions and Technologies Center <i>Math trainer for high-school students</i>
SEPT 2016 - MAY 2017	American University of Armenia <i>Teaching Associate of Probability theory and Statistics courses</i>

EDUCATION

JUNE 2021	Ph.D. in Applied Mathematics Institut Polytechnique de Paris, ENSAE, CREST <i>Supervised by Arnak Dalalyan</i>
SEPT 2018	Master 2 - MVA (Mathematics, Vision, Learning) École normale supérieure Paris-Saclay, Cachan, France <i>Mention: Très bien (GPA: 4.0)</i>
JULY 2017	Bachelor in Mathematics Yerevan State University, Yerevan, Armenia <i>GPA: 20/20</i>
JUNE 2013	High-school degree PhysMath school after A.Shahinyan, Yerevan, Armenia

PUBLICATIONS

"Convergence of Stein Variational Gradient Descent under a Weaker Smoothness Condition", Lukang Sun, Avetik Karagulyan and Peter Richtàrik | [arXiv preprint arXiv:2206.00508](#)

"Sampling with the Langevin Monte-Carlo", Avetik Karagulyan | [Ph.D. thesis defended in Institut Polytechnique de Paris](#)

"Penalized Langevin dynamics with vanishing penalty for smooth and log-concave targets", Avetik Karagulyan, Arnak Dalalyan | [Accepted to NeurIPS 2020](#).

"Bounding the error of discretized Langevin algorithms for non-strongly log-concave targets", Arnak Dalalyan, Avetik Karagulyan and Lionel Riou-Durand | [Published in Journal of Machine Learning Research](#)

"Non-Asymptotic Guarantees For Sampling by Stochastic Gradient Descent", Avetik Karagulyan, [Journal of Contemporary Mathematical Analysis \(Armenian Academy of Sciences\) 54.2 \(2019\): 71-78](#)

"User-friendly guarantees for the Langevin Monte Carlo with inaccurate gradient ", Arnak S. Dalalyan, Avetik G. Karagulyan | [Stochastic Processes and their Applications 129.12 \(2019\): 5278-5311](#).

"Existence of positive solutions for an approximation of stationary mean-field games", Diogo Gomes et al. | [Involve, a Journal of Mathematics Vol. 10 \(2017\), No. 3, 473493](#)

TALKS AND CONFERENCES

2022 November	Virtual seminar at Purdue University Talk
2022 June	Summer school in "Statistical Physics and Machine Learning" Les Houches, France Poster
2022 June	Conference on the Mathematics for Complex Data Stockholm, Sweden Poster
2022 June	International Symposium on Non-parametric Statistics Paphos, Cyprus Poster
2021 November	Journées MAS 2020 Talk
2021 June	Ph.D. defense in ENSAE
2020 December	Meeting in Mathematical Statistics Talk
2020 December	33-rd Neural Information Processing Systems Poster
2020 July	Joint Structures and Common Foundations of Statistical Physics, Information Geometry and Inference for Learning (SPIGL20) Les Houches, France Poster
2020 March	Optimization for Machine Learning, Luminy, France
2019 December	Meeting in Mathematical Statistics, Luminy, France
2019 April	Seminar at Télécom ParisTech, Paris, France Talk
2019 April	8èmes Rencontres des Jeunes Statisticiens (RJS 2019) Porquerolles, France Talk
2019 March	YES X : "Understanding Deep Learning: Generalization, Approximation and Optimization", Eindhoven, Netherlands, Poster
2016 July	3 rd Summer school "Mathematics and Applications", Tsaghkadzor, Armenia
2015 Aug	Visiting Student Research Program "Applied Differential Equations", KAUST
2015 July	2nd Summer school "Mathematics and Applications", Tsaghkadzor, Armenia
2014 July	1st Summer school "Mathematics and Applications", Tsaghkadzor, Armenia

LANGUAGES

ARMENIAN: Mothertongue
RUSSIAN: Full professional
ENGLISH: Full professional
FRENCH: Full professional

AWARDS AND PRIZES

Silver Medal	IMC 2017 Blagoevgrad, Bulgaria
Bronze Medal	IMC 2016 Blagoevgrad, Bulgaria
Silver Medal	IMC 2015 Blagoevgrad, Bulgaria
Gold Medal	2017, Awarded by Yerevan State University <i>For high academic performance and participation in olympiads</i>
Best Student of Faculty	2015, Awarded by Yerevan State University
Honourable Mention	IMO 2013 Santa Marta, Colombia
Honourable Mention	IMO 2012 Mar del Plata, Argentina
Semi-finalist	ACM-ICPC 2015 Tbilisi, Georgia
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2nd Prize	Mirror of William Lowell Putnam Mathematical Competition 2016
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