

Avetik KARAGULYAN

PERSONAL DATA

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WORK EXPERIENCE

CURRENT Nov 2021	Postdoctoral fellow at KAUST <i>Optimization and Machine Learning Lab supervised by Peter Richtarik</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</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

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 | arxiv.org/abs/1906.08530

Non-Asymptotic Guarantees For Sampling by Stochastic Gradient Descent, Avetik G. 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, 473–493](#)

TALKS AND CONFERENCES

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|---------------|---|
| 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 (SPIGL'20) , 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 |

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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Semi-finalist	ACM-ICPC 2013 Tbilisi, Georgia
2nd Prize	Mirror of William Lowell Putnam Mathematical Competition 2016
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LANGUAGES

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