Yan Shu

Contact Information

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Research Interests

Statistical learning, Optimal transport, Functional inequalities, Ricci Curvature, Financial time series forecasting

Education/Work Experiences

2018-2020 Machine Learning researcher
Walnut Algorithms

- Research projects: Statistical learning on time series, Asset Allocation, Order Book
- Creation of automatic trading strategies
- Algorithms optimization (running time reduced by 90% for several projects)

2016-2017 Temporary teaching-researcher

Université Paris Nanterre

2013-2016 Ph.D. student, Mathematics

Université Paris Nanterre

- Subject of Thesis: Infimum-convolution operators and weak transport inequalities in discrete spaces
- Advisors: Cyril Roberto and Nathaël Gozlan

2010-2013 B.S & M.S., Mathematics

Ecole Normale Supérieure de Lyon (normalien)

2008-2010 Classe Préparatoire aux Grandes Ecoles, Mathematics and Physics

Lycée Pierre de Fermat, Toulouse

Publications

(with M. Mihelich, C.Dognin and M. Blot) *A Characterization of Mean Squared Error for Estimator with Bagging* To be appeared in AISTATS 2020

From Hopf-Lax formula to optimal weak transfer plan To appear in SIAM Journal on Mathematical Analysis, 2020

(with M. Mihelich) *k-th price auctions and combination auctions* To be appeared in International Journal of Game Theory, 2019

Hamilton-Jacobi equations on graphs and applications Potential Analysis, 2018

(with M. Fathi) *Curvature and transport inequalities for Markov chains in discrete spaces* Bernoulli Journal, 2016

(with N. Gozlan, C. Roberto, P-M. Samson and P. Tetali) *Characterization of a class of weak transport-entropy inequalities on the line* Annales de l'Institut Henri Poincaré, 2016

(with M. Strzelecki) *Characterization of convex modified Log-Sobolev inequalities on the line.* Annales de l'Institut Henri Poincaré, 2016

Conferences Talks	**Jul 2019** *From Hopf-Lax formula to optimal weak transfer plan*, 49th Probability Summer School, France
	Oct 2016 *On the optimal weak transport plan* Analysis seminar, Max Planck Institute, Germany
	Jul 2016 *Infimum-convolution operators and transport inequalities in discrete spaces* PhD. thesis defense, Université Paris Nanterre France
	Nov 2015 *Generalized weak transport inequalities on graphs*, Probability seminar, Université Paul Sabatier, France
	Sep 2015 *Curvature and functional inequalities on discrete settings*, Probability seminar, Georgia Institute of Technology, United States
	Jul 2015 *Hamilton-Jacobi equations, Curvature and functional inequalities on discrete settings*, 45th Probability Summer School, France
	Jun 2015 *Hamilton-Jacobi equations on graphs and applications*, PDE seminar, Sapienza University of Rome, Italy
	Apr 2015 *Hamilton-Jacobi equations on graphs and applications*, Ph.d student seminar, Université Paris Est Marne la Valleé, France
	Feb 2015 *Hamilton-Jacobi equations on graphs and applications*, Workshop *Gradient flow and entropy method*, University of Bonn, Germany
Teaching	**2013-2016** Teaching assistance in Université Paris Nanterre Courses: Analyse 1, Algebra 1, Statistics 1, Methods of Statistics, Probability 2, Optimization 1
	Jan 2013-May 2013 Oral examiner of CPGE, Lycée du Parc, Lyon, France
	Aug 2013, Aug 2015 Tutor of Olympic Mathematics training, China
Selected Professional Activities	Journal Reviewer: - ICML2020 (Mars 2020) - Bernoulli Journal (Apr 2017) - Annal of Applied Probability (Oct 2016)
	Jul 2016 Organiser, Colloquium *Functional inequalities*, Université Paris Nanterre
	Sep 2015 Visiting student, Georgia Institute of Technology, United States
Miscellaneous	Languages: French (Fluent), English (Working proficiency), Mandarin (Native), Cantonese (Native)
References	Prof. Cyril Roberto Université Paris Nanterre `croberto@math.cnrs.fr` Prof. Nathaël Gozlan Université Paris Déscarte `natael.gozlan@parisdescartes.fr`