

# Ioannis Mitliagkas

## Curriculum Vitae

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CONTACT INFORMATION	Department of Computer Science and Operations Research University of Montréal Pav. André-Aisenstadt CP6128, Succ. Centre-Ville Montreal (QC) H3C 3J7	<i>E-mail:</i> ioannis@iro.umontreal.ca <i>Web:</i> mitliagkas.github.io
ACADEMIC APPOINTMENTS	<b>University of Montréal</b> Assistant Professor, Department of Computer Science and Operations Research	Started September 2017
	<b>Stanford University</b> Postdoctoral Research Fellow, Departments of Statistics and Computer Science Supervised by: Assistant Prof. Christopher Ré, Adjunct Prof. Lester Mackey	2015-2017
RESEARCH INTERESTS	Statistical machine learning, optimization, high-dimensional statistics, MCMC methods, large-scale and distributed learning systems.	
EDUCATION	<b>The University of Texas at Austin</b> PhD, ECE department. <b>Advised by:</b> Prof. Constantine Caramanis and Prof. Sriram Vishwanath <b>Thesis topic:</b> Resource-Constrained, Scalable Learning	Awarded in August 2015
	<b>Technical University of Crete</b> , Chania, Greece MSc., ECE department. Successfully defended thesis in the summer of 2010. <b>Advisor:</b> Professor Nikos D. Sidiropoulos <b>Area of Study:</b> Optimization Problems in Wireless Telecommunications	2008 - 2010
	<b>Technical University of Crete</b> , Chania, Greece Diploma, Electronic and Computer Engineering (5 year degree), <b>Advisor:</b> Professor Nikos D. Sidiropoulos <b>Thesis topic:</b> Convex Approximation-based Joint Power and Admission Control for Cognitive Underlay Networks <b>GPA:</b> 9.01/10, second in class.	2002 - 2008
SCHOLARSHIPS, AWARDS	Gerondelis Foundation Inc.: Graduate Scholarship, 2014 The University of Texas at Austin: Microelectronics and Computer Development (MCD) Fellowship, 2009-2011 Technical University of Crete: Undergraduate excellence award, 2008 State Scholarships Foundation (Greece): Undergraduate excellence award, 2005	

Technical Chamber of Greece: Undergraduate excellence award, 2005

RESEARCH AND  
TEACHING

<b>University of Montreal</b> <i>Instructor—Machine learning (planned)</i>	<b>Fall 2018</b>
<b>University of Montreal</b> <i>Instructor—Theoretical principles for deep learning</i>	<b>Winter 2018</b>
<b>The University of Texas at Austin</b> <i>Teaching Assistant—Information Theory</i>	<b>Spring 2012</b>
<b>The University of Texas at Austin</b> <i>Research Assistant</i>	<b>2009-2015</b>
<b>Technical University of Crete</b> <i>Teaching Assistant—Telecommunication Networks</i>	<b>Fall 2008</b>
<b>Technical University of Crete</b> <i>Undergraduate Research Assistant</i>	<b>May 2007 to August 2008</b>

PUBLICATIONS

- J. Zhang, I. Mitliagkas. YellowFin: Adaptive optimization for (A)synchronous systems. *SysML, 2018 (oral presentation)*.
- P. Achlioptas, O. Diamanti, I. Mitliagkas, L. Guibas. Learning Representations and Generative Models for 3D Point Clouds. Workshop track, *ICLR, 2018*.
- C. De Sa, B. He, I. Mitliagkas, C. Ré, P. Xu. Accelerated stochastic power iteration. *AISTATS, 2018*.
- T. Kurth, J. Zhang, N. Satish, I. Mitliagkas, E. Racah, M.A. Patwary, T. Malas, N. Sundaram, W. Bhimji, M. Smorkalov, J. Deslippe, M. Shiryaev, S. Sridharan, P. Dubey. Deep Learning at 15PF: Supervised and Semi-Supervised Classification for Scientific Data. *Supercomputing (SC), 2017*.
- I. Mitliagkas, L. Mackey. Improving Gibbs Sampler Scan Quality with DoGS. *International Conference on Machine Learning (ICML), 2017*.
- I. Mitliagkas, C. Zhang, S. Hadjis, C. Ré. Asynchrony begets Momentum, with an Application to Deep Learning. *Allerton Conference on Communication, Control, and Computing, 2016*.
- B. He, C. De Sa, I. Mitliagkas, C. Ré. Scan Order in Gibbs Sampling: Models in Which it Matters and Bounds on How Much. *NIPS, 2016*.
- J. Zhang, C. De Sa, I. Mitliagkas, C. Ré. Parallel SGD: When does averaging help? *Optimization Methods for the Next Generation of Machine Learning Workshop, ICML 2016, New York City*.
- I. Mitliagkas, M. Borokhovich, A. Dimakis, C. Caramanis. FrogWild! – Fast PageRank Approximations on Graph Engines. *VLDB, 2015* – Preliminary version appeared at *NIPS 2014 Workshop*.

D. Papailiopoulos, I. Mitliagkas, A. Dimakis, C. Caramanis. Finding dense subgraphs through low-rank approximations. *ICML, 2014*.

I. Mitliagkas, C. Caramanis, P. Jain. Memory-limited Streaming PCA. *NIPS, 2013*.

I. Mitliagkas, A. Gopalan, C. Caramanis, S. Vishwanath. User Rankings from Comparisons: Learning Permutations in High Dimensions. *Allerton Conference on Communication, Control, and Computing, 2011*.

I. Mitliagkas, N. D. Sidiropoulos, and A. Swami. Joint Power and Admission Control for Ad-hoc and Cognitive Underlay Networks: Convex Approximation and Distributed Implementation. *IEEE Transactions on Wireless Communications, 2011*.

I. Mitliagkas, S. Vishwanath. Strong Information-Theoretic Limits for Source/Model Recovery. Appeared in *Allerton Conference on Communication, Control, and Computing, 2010*.

I. Mitliagkas, N. D. Sidiropoulos, and A. Swami. Distributed Joint Power and Admission Control for Ad-hoc and Cognitive Underlay Networks. *ICASSP 2010*.

I. Mitliagkas, N. D. Sidiropoulos, and A. Swami. Convex Approximation-based Joint Power and Admission Control for Cognitive Underlay Networks. *International Wireless Communications and Mobile Computing Conference, 2008. IWCMC'08. IEEE*.

TECHNICAL  
REPORTS

S. Hadjis, C. Zhang, I. Mitliagkas, C. Ré. Omnivore: An Optimizer for Multi-device Deep Learning on CPUs and GPUs. arXiv:1606.04487.

RECENT INVITED  
TALKS

Google Brain, Montréal,	November 2017
Texas Wireless Summit	October 2017
Colloquium, University of Montréal	September 2017
Colloquium, The University of Texas, Austin	September 2017
AutoML workshop, ICML, Sydney	August 2017
Workshop on Advances in Computing Architectures, Stanford SystemX	April 2016
ITA workshop, UC San Diego	February 2017
AAAI 2017 Workshop on Distributed Machine Learning	February 2017
Microsoft Research, Cambridge, UK	December 2016
SystemX Stanford Alliance Fall Conference	November 2016
Microsoft Research, New England	October 2016
Allerton Conference	September 2016
Google	August 2016
MIT Lincoln Labs	August 2016
NVIDIA	July 2016

PROFESSIONAL  
SERVICE

Reviewer for a number of journals and conferences including NIPS, ICML, COLT, AIS-TATS, AAI, ICLR, SIGGRAPH, Transactions on Information Theory, ISIT, ICASSP, Transactions on Wireless Communications.