

Ioannis Mitliagkas Curriculum Vitae

CONTACT INFORMATION	Department of Computer Science Stanford University 353 Serra Mall, Stanford, CA 94305	<i>Phone:</i> +1 (512) 902-9296 <i>E-mail:</i> imit@stanford.edu <i>Web:</i> mitliagkas.github.io
ACADEMIC APPOINTMENTS	Stanford University Postdoctoral Research Fellow, Departments of Statistics and Computer Science Supervised by: Assistant Prof. Lester Mackey , Assistant Prof. Christopher Ré	Started September 2015
RESEARCH INTERESTS	Statistical machine learning, optimization, high-dimensional statistics, MCMC methods, large-scale and distributed learning systems.	
EDUCATION	The University of Texas at Austin PhD, ECE department. Advised by: Prof. Constantine Caramanis and Prof. Sriram Vishwanath Technical University of Crete , Chania, Greece MSc., ECE department. Successfully defended thesis in the summer of 2010. Advisor: Professor Nikos D. Sidiropoulos Area of Study: Optimization Problems in Wireless Telecommunications Technical University of Crete , Chania, Greece Diploma, Electronic and Computer Engineering (5 year degree), Advisor: Professor Nikos D. Sidiropoulos Thesis topic: Convex Approximation-based Joint Power and Admission Control for Cognitive Underlay Networks GPA: 9.01/10, second in class.	Awarded in August 2015 2008 - 2010 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

The University of Texas at Austin

Spring 2012

Teaching Assistant—Information Theory

The University of Texas at Austin

2009-2015

Research Assistant

Technical University of Crete

Fall 2008

Teaching Assistant—Telecommunication Networks

Technical University of Crete

May 2007 to August 2008

Undergraduate Research Assistant

PUBLICATIONS

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, *arXiv:1605.09774*.

B. He, C. De Sa, I. Mitliagkas, C. Ré Scan Order in Gibbs Sampling: Models in Which it Matters and Bounds on How Much. Accepted, *Neural Information Processing Systems (NIPS)* 2016.

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

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. *International Conference on Machine Learning*, 2014 (Vol. 14, pp. 1890-1898).

I. Mitliagkas, C. Caramanis, P. Jain. Memory-limited Streaming PCA. Appeared in *Neural Information Processing Systems (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. *International Conference*

on Acoustics, Speech and Signal Processing (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.*

PROFESSIONAL SERVICE Reviewer for a number of journals and conferences including NIPS, ICML, COLT, Transactions on Information Theory, ISIT, ICASSP, Transactions on Wireless Comm.

TECHNICAL SKILLS **Languages:** C, C++, Java, Python, Matlab, Scala.

Distributed programming: Worked on Caffe, TensorFlow, MapReduce, Spark, GraphLab, Amazon EC2 infrastructure. Hacked the engine of GraphLab to improve its random algorithms support (cf. our FrogWild! paper). Implemented asynchronous training capability on IntelCaffe.

Parallel programming: Lock-free multi-threaded programming in C, multi-process programming in Python.

Other: Some experience in reverse software engineering and network vulnerability detection tools. Hardware design and programming: VHDL, assembly language programming (x86, MIPS, AVR).

GRADUATE COURSE HIGHLIGHTS Algorithms: Techniques and Theory (CS department)

Convex Analysis

Information Theory

Randomized Algorithms (CS department)

Systems Theory

Topics in Network Sciences

Analysis and Design of Communication Networks

Theory of Probability (Math Department)

REFERENCES Christopher Ré, Stanford University

Lester Mackey, MSR New England/Stanford University

Constantine Caramanis, UT Austin

Alex Dimakis, UT Austin

Sriram Vishwanath, UT Austin

Nikos D. Sidiropoulos, University of Minnesota