

GUILLAUME OBOZINSKI

Ecole des Ponts - ParisTech - Equipe Imagine
Laboratoire d'Informatique Gaspard Monge

6, av. Blaise Pascal
Cité Descartes
Champs-sur-Marne
77455 Marne-la-Vallée Cedex 2
France

page web: <http://imagine.enpc.fr/~obozinsg/>

Formation

- 2003–2009** **PhD en Statistiques, Université de Californie à Berkeley, CA, USA.**
Dissertation: *Simultaneous Variable Selection and Simultaneous Subspace Selection for Multitask Learning*
Directeur de thèse: *Michael Jordan*
- 2002–2003** **Ecole Doctorale, Mathematical Sciences, Université Johns Hopkins, MD, USA.**
- 2001–2002** **Ecole Normale Supérieure de Cachan, France.**
DEA Mathématiques/Vision/Apprentissage
- 1999–2001** **Ecole Normale Supérieure de Cachan, France.**
Admission à l' ENS Cachan en 1999.

Expérience Professionnelle

- Depuis 01/2013** **Ecole des Ponts - ParisTech - équipe Imagine. CHERCHEUR.**
- 09/2010-12/2012** **INRIA - équipe Sierra. CHERCHEUR.**
- 02/2009-08/2010** **INRIA - équipe Willow. CHERCHEUR POST-DOCTORANT.**
- 2004**
(2 mois) **Intel, Architecture Research Lab., Santa-Clara, CA. STAGE EN INDUSTRIE.**
Projet: Algorithmes parallèles pour l'apprentissage de structure de modèles graphiques orientés acycliques.
- 2002**
(3 mois) **Laboratoire de Neurosciences Cognitives et Imagerie Cérébrale, CNRS UPR-640, Hôpital de la Salpêtrière, Paris, France. STAGE DE DEA.**
Projet: Segmentation et analyse automatique en imagerie MEG avec *Sylvain Baillet*.
- 2000 & 2001**
(5 mois au total) **Computer Vision Laboratory, Caltech, Pasadena, CA. STAGE DE MAGISTÈRE.**
Projet: Apprentissage non-supervisé pour la reconnaissance automatique de signature manuscrite avec *Pietro Perona*.

Prix

Evelyn Fix Memorial Medal, “*awarded to PhD student showing the greatest promise in statistical research, with preference for applications to biology and problems of health*”, Université de Californie à Berkeley, 2009, pour la recherche effectuée en thèse sur la prédiction de la fonction moléculaire des protéines.

Enseignement

- Depuis 2016** **Responsable du volet de formation statistiques/apprentissage automatique**,
Mastère spécialisé Decision et Systèmes d'Information Géolocalisée (DéSIGéo),
ENPC, ENSG, CNAM.
- Depuis 2014** **Apprentissage Statistique**,
Cours de M1 de l'Ecole des Ponts (co-enseignant).
- Depuis 2013** **Traitement de l'Information et Vision Artificielle**,
Cours de M1 de l'Ecole des Ponts (co-enseignant).
- Depuis 2010** **Modèles Graphiques Probabilistes**,
Cours de M2 du Master Mathématiques/Vision/Apprentissage de l'Ecole Normale Supérieure
de Cachan (co-enseignant).
- 2011–2013** **Introduction à l'apprentissage**,
Cours de L3 de l'Ecole Normale Supérieure de Paris (co-enseignant).

Tutoriaux, écoles d'été, etc

- 2014**
(18h) **Apprentissage statistique**,
Cours intensif des écoles doctorales SOCN et CIL, Louvain-la-Neuve, Belgique.
- 2012**
(7.5h) **Probabilistic graphical models for Information Retrieval**,
Russian Summer School in Information Retrieval (RuSSIR 2012), Yaroslavl, Russie.
- 2010-2012**
(3×3h) **Introduction aux Modèles graphiques**,
Enseignement spécialisé "Apprentissage Artificiel", de l'Ecole des Mines de Paris, ParisTech.
- 2011**
(10h) **Lasso et méthodes convexes parcimonieuses**,
Summer school on Sparsity and Model Selection, Centro de Matematica Montevideo Uruguay,
Montevideo, Uruguay.
- Sept. 20th 2010**
(1.5h) **Tutorial “ Sparse methods for machine learning: Theory and algorithms ”**, Euro-
pean Conference on Machine Learning, Barcelone.
- 2010**
(3 hours) **ℓ_1 -regularization and other convex sparse methods**,
Summer School on Sparsity in Image and Signal Analysis at Hólar, Islande.

5 Publications Principales

- **Support Union Recovery in High-Dimensional Multivariate Regression**, G. Obozinski, M.J. Wainwright, M.I. Jordan, *Annals of Statistics*, 39 (1), p.1-47, 2011.
- **Genomic Privacy: Limits of Individual Detection in a pool**, S. Sankararaman¹, G. Obozinski¹, M.I. Jordan, E. Halperin, *Nature Genetics*, 41:965-967, 2009.
- **Joint Covariate Selection and Joint Subspace Selection for Multiple Classification Problems**, G. Obozinski, B. Taskar, M.I. Jordan, *Statistics and Computing*, 20(2): 231-252, 2010.
- **Group Lasso with overlap and graph Lasso**, L. Jacob, G. Obozinski, J.-P. Vert, *International Conference in Machine Learning*, 2009.
- **Optimization with sparsity-inducing penalties**, F. Bach, R. Jenatton, J Mairal, G. Obozinski *Foundations and Trends in Machine Learning*, 2012.

Communications Orales Principales

- 06/2006** Multitask Feature Selection,
workshop Structural Knowledge Transfer for Machine Learning, ICML2006, Pittsburg, PA.
- 01/2009** Support union recovery in high-dimensional multivariate regression,
Machine Learning seminar, University of Pennsylvania, Philadelphia, PA.
- 02/2010** From sparsity to structured sparsity,
Statistics laboratory, University of Cambridge, UK.
- 06/2010** Structured Sparse Principal Component Analysis,
Sustain workshop on sparse structures, University of Bristol, UK.
- 12/2010** Structured regularization and MKL,
NIPS workshop: "New Directions in Multiple Kernel Learning", Whistler, BC, Canada.
- 01/2011** Structured Sparse Coding: Efficient algorithms and applications,
BIRS workshop "Sparse Statistics, Optimization and Machine Learning", Banff, Alberta, Canada.
- 06/2011** Convex relaxation for Combinatorial Penalties,
Mini-Workshop: "Mathematics of Machine Learning", Oberwolfach, Germany.
- 07/2012** Convex relaxation for Combinatorial Penalties,
Congrès mondial de Probabilités et Statistiques, Istanbul, Turquie.
- 04/2013** Relational learning with many relations,
Oxford Robotics Research Seminar
- 07/2015** Tight convex relaxations for sparse matrix factorization,
Joint conference of the Institute of Mathematical Statistics and the Australian Statistical Society, Sydney, Australia.

¹The two first authors contributed equally to this work

Activités Professionnelles

Area chair	AISTATS 2012-2013, NIPS 2013-2014, 2016, ICML 2015
Reviews journaux	Annals of Statistics (AOS), Journal of Machine Learning Research (JMLR), Journal of the Royal Statistical Society (JRSS), Electronic Journal of Statistics (EJS), IEEE Transaction on Signal Processing (TSP), IEEE Transactions on Information theory, IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI), Machine Learning, Statistics and Computing (STCO), Artificial Intelligence , Journal of Computational and Graphical Statistics (JCGS), IEEE/ACM Transactions in Computational Biology and Bioinformatics (TCBB).
Reviews confs	International Conference on Neural Information Processing Systems (NIPS), International Conference on Machine Learning (ICML), European Conference on Machine Learning (ECML), International Conference on Artificial Intelligence and Statistics (AI-Stats), Conference on Uncertainty in Artificial Intelligence (UAI), Conference on Learning Theory (COLT).
Organisation ateliers/colloques	ICML 2011 workshop "Structured Sparsity: Learning and Inference Workshop", 2/7/2011, Bellevue, Washington, USA. NIPS 2011 workshop "Sparse Representation and Low-rank approximation", 16/12/2011, Sierra Nevada, Spain. ICML 2012 workshop "Sparsity, Dictionaries and Projections in Machine Learning and Signal Processing", 30/06/2012, Edinburgh, UK. Workshop "Statistical Learning Methods for Computer Experiments", 28/05/2014, Université Paris Descartes, Paris, France. Journée "Data Science and Massive Data Analysis", 12/06/2014, Labex Bézout, Champs- sur-Marne, France. Colloque "Perspectives and New Challenges in Data Sciences", 03/02/2016, Ecole des Ponts ParisTech, Champs-sur-Marne, France. Optimization workshop of the DALI meeting, 01/4/2016, Sestri Levante, Italy.
Jury de thèse	Rodolphe Jenatton , "Structured Sparsity-Inducing Norms: Statistical and Algorithmic Properties with Applications to Neuroimaging", 24 novembre 2011. Pierre-André Savalle , "Interactions entre Rang et Parcimonie en Estimation Pénalisée", 21 octobre 2014. Alix Lheritier , "Non-parametric Methods for Learning and Detecting Multivariate Statis- tical Dissimilarity", 23 novembre 2015.

Langues

Francais	Langue maternelle
Anglais	Courant
Allemand	Intermédiaire
Programmation	Matlab (expérimenté), Caml, C, C++, Unix shell