

Émile Richard

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Research interests: computational biology, statistical analysis of graphs, machine learning, complex networks, matrix factorization, compressed sensing.

Education

- **École Normale Supérieure, Cachan** Apr. 2009 – Nov. 2012
Ph.D. in Applied Mathematics
 - Area: machine learning and e-marketing applications
 - Advisors: Nicolas Vayatis and Theodoros Evgeniou
- **École Normale Supérieure, Cachan** Sept. 2007 – Dec. 2008
Master of Science in Mathematics, Learning and Vision
Relevant coursework: Vision (J. Ponce, N. Paragios), Learning (N. Vayatis, J.-P. Vert)
- **École Centrale Paris** Sept. 2005 – Dec. 2008
Engineering degree (M.Sc.) in Applied Mathematics
Relevant coursework: optimization, stochastic processes, computer science, data mining

Publications

- **Link Prediction in Graphs with Autoregressive Features** with S. Gaiffas and N. Vayatis
Neural Information Processing Systems 2012
- **Regression with mixed ℓ_1 -trace norm penalty and application to graph prediction.** *in preparation*
- **Graph prediction in a low-rank and autoregressive setting.** *ICML workshop, 2012* with P.-A. Savalle and N. Vayatis
- **Estimation of simultaneously sparse and low rank matrices.** *International Conference on Machine Learning 2012*
- **A Regularization approach for prediction of edges and node features in dynamic graphs.** *Technical report 2011*, with A. Argyriou, Th. Evgeniou, N. Vayatis
- **Content contributor asset management and network effects in a UGC environment.** *Marketing Science 2011*, with K. Zhang, Th. Evgeniou, P. Padmanabhan
- **Link discovery using graph feature tracking.** *Neural Information Processing Systems 2010*, with N. Baskiotis, Th. Evgeniou and N. Vayatis
- **Mesure de la valeur sociale client.** *submitted to Recherche et Applications en Marketing*, with T. Munier and D. Renard

Work experience

- **Ecole des Mines ParisTech, Institut Curie** Oct. 2012 – present
Postdoc in Computational Biology
- **1000mercis** Apr. 2009 – 2012
Research assistant and data mining application developer
 - **Recommender systems** designed for C-to-C e-commerce databases containing millions of customers and items.
 - **Scoring and customer valuation** for CRM databases containing of tens of millions of users and hundreds of features.
 - **Clustering and data visualization** of multi-channel advertisement data, for supporting design of optimal hybrid solutions.
- **École Centrale Paris** Sep. 2010 – present
Teaching assistant

Statistics and data mining, including introduction to R, for applied mathematics and computer science M.Sc. students.
- **Graz University of Technology (Austria)** Apr. 2008 – Dec. 2008
Research internship
 - Improvement of object detection in a multi-camera setup by co-training sequential learners
 - Implementation of a sequential versions of Boosting algorithms for image classification in MATLAB and C++ and analysis of various co-training strategies.
 - Advisors : Horst Bishof, Nikos Paragios
- **EADS Innovation Works** Oct. 2007– Mar. 2007
Developpement of a Computer Vision Application
 - Tennis coaching using automatic video annotator.
 - Feasibility study, and C++ implementation of several tools for supporting tennis coaching tasks as calibration, ball tracking, gesture recognition.
- **STMicroelectronics, Catania (Italy)** Jun. 2006 – Aug. 2006
Quality and Reliability

Technical mission in the Quality and Reliability department of ST for the automobile flash memory production department.

Skills

Languages French and Persian native speaker, fluent in English

Programming MATLAB, R, SQL, Python and C/C++

Personal interests painting and music. Played drums and composed electronic music. Digitalized an acoustic instrument using sensors and real-time gesture recognition.