

## SCIENTIFIC PRODUCTION (SCIENTIFIC PAPERS and PROCEEDINGS PAPERS)

### ANALYSE DE DONNEES MASSIVES

#### A) Scientific papers

1. S. Clemençon and N. Vayatis. Tree-Based Ranking Methods. *IEEE TRANSACTIONS ON INFORMATION THEORY*, 55(9):4316–4336, SEP 2009.
2. S. Clemençon and N. Vayatis. Overlaying Classifiers: A Practical Approach to Optimal Scoring. *CONSTRUCTIVE APPROXIMATION*, 32(3):619–648, 2010.
3. S. Clemençon, M. Depecker, and N. Vayatis. Adaptive partitioning schemes for bipartite ranking. *MACHINE LEARNING*, 83(1):31–69, APR 2011.
4. V. Perchet. Approachability of Convex Sets in Games with Partial Monitoring. *JOURNAL OF OPTIMIZATION THEORY AND APPLICATIONS*, 149(3):665–677, JUN 2011.
5. V. Perchet. Internal Regret with Partial Monitoring: Calibration-Based Optimal Algorithms. *JOURNAL OF MACHINE LEARNING RESEARCH*, 12:1893–1921, JUN 2011.
6. T. Stefanakis, F. Dias, and D. Dutykh. Local Run-Up Amplification by ResonantWave Interactions. *PHYSICAL REVIEW LETTERS*, 107(12), SEP 16 2011.
7. S. Clemençon, M. Depecker, and N. Vayatis. Ranking Forests. *JOURNAL OF MACHINE LEARNING RESEARCH*, 14:39–73, JAN 2013.
8. S. Clemençon, S. Robbiano, and N. Vayatis. Ranking data with ordinal labels: optimality and pairwise aggregation. *MACHINE LEARNING*, 91(1):67–104, APR 2013.
9. U. Kanoglu, V. V. Titov, B. Aydin, C. Moore, T. Stefanakis, H. Zhou, M. Spillane, and C. E. Synolakis. Focusing of long waves with finite crest over constant depth. *PROCEEDINGS OF THE ROYAL SOCIETY A-MATHEMATICAL PHYSICAL AND ENGINEERING SCIENCES*, 469(2153), MAY 8 2013.

#### B) Proceedings papers

1. N. Mahler. Modeling the s&p 500 index using the kalman filter and the laglasso. In *2009 IEEE International Workshop On Machine Learning For Signal Processing*, pages 162–167 IEEE International Workshop on Machine Learning for Signal Processing (MLSP 2009), Grenoble, 2009.
2. S. Cléménçon and N. Vayatis. Nonparametric Estimation of the Precision-Recall Curve. Proceedings of the 26th International Conference on Machine Learning, (2009) pp. 185-192, eds. Léon Bottou and Michael Littman, Omnipress, Montreal.
3. O.-A. Maillard and N. Vayatis. Complexity versus agreement for many views. Co-regularization for multi-view semi-supervised learning, in Gavaldà, Ricard (ed.) et al., *Algorithmic learning theory. Lecture Notes in Computer Science 5809*, pp. 232-246, Springer, Berlin, 2009.
4. S. Cléménçon and N. Vayatis. Adaptive estimation of the optimal ROC curve and a bipartite ranking algorithm, in Gavaldà, Ricard (ed.) et al., *Algorithmic learning theory. Lecture Notes in Computer Science 5809*, pp. 216-231, Springer, Berlin, 2009.
5. S. Cléménçon, N. Vayatis. Empirical performance maximization for linear rank statistics, in Daphne Koller, Dale Schuurmans, Yoshua Bengio, Léon Bottou (Eds.): *Advances in Neural Information Processing Systems 21*, MIT Press 2009, pp. 305-312.
6. P. Bertail, S. Cléménçon, N. Vayatis. On Bootstrapping the ROC Curve, in Daphne Koller, Dale Schuurmans, Yoshua Bengio, Léon Bottou (Eds.): *Advances in Neural Information Processing Systems 21*, MIT Press 2009, pp. 137-144

7. S. Cléménçon, N. Vayatis. Overlaying classifiers: a practical approach for optimal ranking, in Daphne Koller, Dale Schuurmans, Yoshua Bengio, Léon Bottou (Eds.): *Advances in Neural Information Processing Systems 21*, MIT Press 2009, pp. 313-320.
8. S. Cléménçon, M. Depecker, and N. Vayatis. Bagging Ranking Trees, *Proceedings of the Fourth International Conference on Machine Learning and Applications*, pp. 658-663, Publisher: IEEE Computer Society, Los Alamitos, CA, USA, 2009.
9. J. Defretin, J. Marzat, H. Piet-Lahanier. Learning Viewpoint Planning in Active Recognition on a Small Sampling Budget: a Kriging Approach. 9th IEEE Conference on Machine Learning and Applications, ICMLA 2010, Washington D.C., USA, december 12-14 2010.
10. S. Cléménçon, M. Depecker, N. Vayatis. Données avec label binaire: avancées récentes dans le domaine de l'apprentissage statistique d'ordonnements CAP 2010 Conférence Francophone sur l'Apprentissage Automatique, 17-19 mai 2010, Clermont-Ferrand, France.
11. E. Richard, N.; Baskiotis, T. Evgeniou and N. Vayatis Link Discovery using Graph Feature Tracking NIPS'2010 -Advances in Neural Information Processing Systems 23, December 6-9, 2010, Vancouver, Canada
12. G. Merle, J.-M. Roussel, J.-J; Lesage, N. Vayatis, Analytical Calculation of Failure Probabilities in Dynamic Fault Trees including Spare Gates, *Proceedings of the European Safety & Reliability Conference 2010 (ESREL 2010)*, pp. 794-801, September 5-9, 2010, Rhodes, Greece <http://hal.archives-ouvertes.fr/hal-00516893/fr/>
13. N. Baskiotis, S. Cléménçon, M. Depecker, N. Vayatis, TreeRank : a R package for bipartite ranking SMDTA'2010 Stochastic Modeling Techniques and Data Analysis International conference : 8 11 Juin 2010, Chania Greece
14. A. Kohatsu, N. Vayatis, K. Yasuda. Strong consistency of Bayesian estimator under discrete observations and unknown transition density. In *STOCHASTIC ANALYSIS WITH FINANCIAL APPLICATIONS : Hong-Kong 2009*. A. Kohatsu-Higa, N. Privault, eds. Birkhäuser, pp. 145-168.
15. S. Mannor, V. Perchet, G. Stoltz. Robust approachability and regret minimization in games with partial monitoring. *Proceedings of the 24th Annual Conference on Learning Theory, JOURNAL OF MACHINE LEARNING RESEARCH*, 19:515-536, 2011.
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17. A. Kohatsu-Higa, N. Vayatis and K. Yasuda. Strong consistency of the Bayesian estimator for the Ornstein-Uhlenbeck process. *The 5th Bachelier Colloquium in Stochastic Calculus and Mathematical Finance*, France : Metabief, 16-23.01 2011.
18. N.H. Bshouty, G. Stoltz, N. Vayatis, T. Zeugmann Eds. (2012). *Algorithmic Learning Theory: Proceedings of the 23rd International Conference, ALT 2012, Lecture Notes in Computer Science / Lecture Notes in Artificial Intelligence, LNAI7568*.
19. E. Richard, S. Gaiffas, and N. Vayatis,. Link Prediction in Graphs with Autoregressive Features. *Proceedings of NIPS'12*.
20. T.S. Stefanakis, F. Dias, N. Vayatis, and S. Guillas,. Long-Wave Runup On A Plane Beach Behind A Conical Island. *Proceedings of 15 WCEE*, Lisboa.
21. S. Varet, P. Dossantos-Uzarralde, N. Vayatis, and E. Bauge, Pseudo-measurement simulations and bootstrap for the experimental cross-section variances estimation with quality qualification. *Proceedings of Wonder 2012: 3rd International Workshop on Nuclear Data Evaluation for Reactor Applications (Aix-en-Provence)*.

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23. E. Richard, P.-A. Savalle, and Nicolas Vayatis. Estimation of simultaneously sparse and low rank matrices. Proceedings of ICML 2012.

## **IMAGE ET SIGNAUX BIOLOGIQUES**

### **A) Scientific papers**

1. F. Alter and V. Caselles. Uniqueness of the Cheeger set of a convex body. *NONLINEAR ANALYSIS-THEORY METHODS & APPLICATIONS*, 70(1):32–44, JAN 1 2009.
2. J. Aujol. Some First-Order Algorithms for Total Variation Based Image Restoration. *JOURNAL OF MATHEMATICAL IMAGING AND VISION*, 34(3):307–327, JUL 2009.
3. M. Bernot, V. Caselles and J.-M. Morel, Optimal transportation networks : models and theory, Lecture Notes in Mathematics, Springer Verlag, Vol 1995, 2009.
4. V. L. Billat, L. Mille-Hamard, Y. Meyer, and E. Wesfreid. Detection of changes in the fractal scaling of heart rate and speed in a marathon race. *PHYSICA A-STATISTICAL MECHANICS AND ITS APPLICATIONS*, 388(18):3798–3808, SEP 15 2009.
5. A. Buades, B. Coll, J.-M. Morel, and C. Sbert. Self-Similarity Driven Color Demosaicking. *IEEE TRANSACTIONS ON IMAGE PROCESSING*, 18(6):1192–1202, JUN 2009.
6. N. Charon and F. Barbaresco. A new approach for target detection in radar images based on geometric properties of covariance matrices'spaces. *TRAITEMENT DU SIGNAL*, 26(4):269– 278, 2009.
7. S. Durrleman, X. Pennec, A. Trouvé, and N. Ayache. Statistical models of sets of curves and surfaces based on currents. *MEDICAL IMAGE ANALYSIS*, 13(5):793–808, OCT 2009. 11th International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI2008), New York, NY, SEP 06-10, 2008.
8. J.-D. Durou : Reconstruction 3D à partir des ombrages. Dans : Problèmes inverses en imagerie et en vision, Ali Mohammad-Djafari (éd.), Lavoisier, chap. 10, p. 353-390, vol. 2, Traité Signal et Image, collection IC2, septembre 2009.
9. J.-D. Durou : Shape from Shading. In Inverse Problems in Vision and 3D Tomography, Ali Mohammad-Djafari (éd.), ISTE - WILEY, p. 355-392, novembre 2009.
10. V. Duval, J. Aujol, and Y. Gousseau. The tv1 model: a geometric point of view. *MULTI-SCALE MODELING & SIMULATION*, 8(1):154–189, 2009.
11. G. Facciolo, A. Almansa, J. Aujol, and V. Caselles. Irregular to regular sampling, denoising, and deconvolution. *MULTISCALE MODELING & SIMULATION*, 7(4):1574–1608, 2009.
12. R. Grompone von Gioi and J. Jakubowicz. On computational Gestalt detection thresholds. *JOURNAL OF PHYSIOLOGY-PARIS*, 103(1-2):4–17, JAN-MAR 2009.
13. D. D. Holm, A. Trouvé, and L. Younes. The euler-poincare theory of metamorphosis. *QUARTERLY OF APPLIED MATHEMATICS*, 67(4):661–685, DEC 2009.
14. B. Le Saux, B. Chalmond, Y. Yu, A. Trouvé, O. Renaud, and S. L. Shorte. Isotropic high-resolution three-dimensional confocal micro-rotation imaging for non-adherent living cells. *JOURNAL OF MICROSCOPY*, 233(3):404–416, MAR 2009.
15. B. Luo, J. Aujol, and Y. Gousseau. Local scale measure from the topographic map and application to remote sensing images. *MULTISCALE MODELING & SIMULATION*, 8(1):1– 29, 2009.

16. F. Malgouyres and M. [Nikolova](#). Average performance of the approximation in a dictionary using an  $l(0)$  objective. *COMPTES RENDUS MATHEMATIQUE*, 347(9-10):565–570, MAY 2009.
17. B. Matei and Y. [Meyer](#). A variant of compressed sensing. *REVISTA MATEMATICA IBEROAMERICANA*, 25(2):669–692, 2009.
18. J.-M. [Morel](#) and G. Yu. ASIFT: A New Framework for Fully Affine Invariant Image Comparison. *SIAM JOURNAL ON IMAGING SCIENCES*, 2(2):438–469, 2009.
19. M. [Nikolova](#). One-iteration dejittering of digital video images. *JOURNAL OF VISUAL COMMUNICATION AND IMAGE REPRESENTATION*, 20(4):254–274, MAY 2009.
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21. Y. [Peng](#), L. Pi, and C. Shen. A semi-automatic method for burn scar delineation using a modified Chan-Vese model. *COMPUTERS & GEOSCIENCES*, 35(2):183–190, FEB 2009.
22. S. Rami-Shojaei, C. [Vachier](#), and C. Schmitt. Automatic analysis of 2D foam sequences: Application to the characterization of aqueous proteins foams stability. *IMAGE AND VISION COMPUTING*, 27(6):609–622, MAY 4 2009.
23. F. [Vialard](#) and F. Santambrogio. Extension to BV functions of the large deformation diffeo-morphisms matching approach. *COMPTES RENDUS MATHEMATIQUE*, 347(1-2):27–32, JAN 2009.
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26. J. [Aujol](#), S. Ladjal, and S. Masnou. Exemplar-based inpainting from a variational point of view. *SIAM JOURNAL ON MATHEMATICAL ANALYSIS*, 42(3):1246–1285, 2010.
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29. A. [Buades](#), T. M. Le, J. [Morel](#), and L. A. Vese. Fast Cartoon plus Texture Image Filters. *IEEE TRANSACTIONS ON IMAGE PROCESSING*, 19(8):1978–1986, AUG 2010.
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31. J. Digne, J. [Morel](#), N. Audfray, and C. Lartigue. High Fidelity Scan Merging. *COMPUTER GRAPHICS FORUM*, 29(5):1643–1651, JUL 2010.
32. S. Durand, J. Fadili, and M. [Nikolova](#). Multiplicative Noise Removal Using  $L_1$  Fidelity on Frame Coefficients. *JOURNAL OF MATHEMATICAL IMAGING AND VISION*, 36(3):201– 226, MAR 2010.
33. S. Durrleman, X. Pennec, A. [Trouve](#), N. Ayache, and J. Braga. Measuring the inter-species variability of endocast growth using shape regression and spatiotemporal registration. *AMER-ICAN JOURNAL OF PHYSICAL ANTHROPOLOGY*, (50):98, 2010. 79th Annual Meeting of the American-Association-of-Physical-Anthropologists, Albuquerque, NM, APR 14-17, 2010.

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48. A. Buades, J.-L. Lisani, and J. Morel. Dimensionality of color space in natural images. *JOURNAL OF THE OPTICAL SOCIETY OF AMERICA A-OPTICS IMAGE SCIENCE AND VISION*, 28(2):203–209, FEB 2011.
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### C) IPOL publications

#### [Simplest Color Balance](#)

2011-10-24 · Nicolas Limare, Jose-Luis Lisani, Jean-Michel Morel, Ana Belén Petro, Catalina Sbert

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2011-09-27 · Pascal Getreuer

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2011-09-27 · Julie Digne, Nicolas Audfray, Claire Lartigue, Charyar Mehdi-Souzani, Jean-Michel Morel

#### [Micro-Texture Synthesis by Phase Randomization](#)

2011-09-23 · Bruno Galerne, Yann Gousseau, Jean-Michel Morel

#### [Finite Difference Schemes for MCM and AMSS](#)

2011-09-13 · Marco Mondelli, Adina Ciomaga

#### [Roussos-Maragos Tensor-Driven Diffusion for Image Interpolation](#)

2011-09-13 · Pascal Getreuer

#### [Cartoon+Texture Image Decomposition](#)

2011-09-13 · Antoni Buades, Triet Le, Jean-Michel Morel, Luminita Vese

#### [Non-Local Means Denoising](#)

2011-09-13 · Antoni Buades, Bartomeu Coll, Jean-Michel Morel

#### [Gunturk-Altunbasak-Mersereau Alternating Projections Image Demosaicking](#)

2011-09-01 · Pascal Getreuer

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2011-08-14 · Pascal Getreuer

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2011-08-01 · Pascal Getreuer

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2011-06-22 · Jose-Luis Lisani, Antoni Buades, Jean-Michel Morel

#### [Self-similarity Driven Demosaicking](#)

2011-06-01 · Antoni Buades, Bartomeu Coll, Jean-Michel Morel, Catalina Sbert

#### [Retinex Poisson Equation: a Model for Color Perception](#)

2011-04-05 · Nicolas Limare, Ana Belén Petro, Catalina Sbert, Jean-Michel Morel

#### [ASIFT: An Algorithm for Fully Affine Invariant Comparison](#)

2011-02-24 · Guoshen Yu, Jean-Michel Morel

#### [Automatic Color Enhancement \(ACE\) and its Fast Implementation](#)

2012-11-06 · Pascal Getreuer

[The Flutter Shutter Camera Simulator](#)

2012-10-17 · Yohann Tendo

[An Analysis and Implementation of the BM3D Image Denoising Method](#)

2012-08-08 · Marc Lebrun

[Non-uniformity Correction of Infrared Images by Midway Equalization](#)

2012-07-12 · Yohann Tendo, Stéphane Landeau, Jérôme Gilles

[An Implementation and Detailed Analysis of the K-SVD Image Denoising Algorithm](#)

2012-05-19 · Marc Lebrun, Arthur Leclaire

[LSD: a Line Segment Detector](#)

2012-03-24 · Rafael Grompone von Gioi, Jérémie Jakubowicz, Jean-Michel Morel, Gregory Randall

[Non-parametric Sub-pixel Local Point Spread Function Estimation](#)

2012-03-23 · Mauricio Delbracio, Pablo Musé, Andrés Almansa

## **GENUINE FLUID DYNAMICS GROUP**

### **A) Scientific papers**

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