ALEXEY OZEROV

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marié,
deux enfants,
nationalité russe,
permis de conduire B

FORMATION

Thèse de Doctorat en Traitement du Signal, décembre 2006
Université Rennes 1, France

Master (DESS) de Mathématiques Appliquées, mention **"Bien"**, septembre 2003
"Calcul Scientifique et Applications", Université Bordeaux 1, France

Master de Mathématiques Pures, département des équations différentielles, juin 1999
faculté de Mathématiques et Mécanique, Université d'état de Saint-Pétersbourg, Russie

EXPERIENCE PROFESSIONNELLE

Post-Doctorat chez Technicolor, Cesson Sevigné, France novembre 2011 - présent

Post-Doctorat au sein de l'équipe METISS septembre 2009 - octobre 2011
de l'IRISA / INRIA, Rennes, France

Post-Doctorat au sein de l'équipe Audio, Acoustique et Ondes (AAO) février 2008 - juillet 2009
du LTCI / TELECOM ParisTech, Paris, France

Post-Doctorat au sein du laboratoire du Traitement du Signal janvier - decembre 2007
et de l'Image (SIP) à KTH (Institut Royal de Technologie), Stockholm, Suède

Préparation de thèse de Doctorat en Traitement du Signal, novembre 2003 - décembre 2006
à France Télécom R&D, et dans l'équipe METISS de l'IRISA, Rennes, France

Stage de Master (DESS), mars - septembre 2003
dans l'équipe METISS de l'IRISA, Rennes, France

Ingénieur Logiciel R&D, Terayon Communicational Systems (USA), novembre 1999 - juillet 2002
à Saint-Pétersbourg, Russie, puis à Prague, République Tchèque

ENSEIGNEMENT

Travaux dirigés en "Théorie d'information et codage de source" (6 heures) février 2007
à l'Institut Royal de Technologie (KTH), Stockholm, Suède.

Travaux dirigés en "Théorie des fonctions d'une variable complexe" (8 heures) mars 1999
à l'Institut des Systèmes Intelligents et de Technologie (ISIT), Saint-Pétersbourg, Russie.

RESPONSABILITES COLLECTIVES

Membre du comité local d'organisation de la campagne internationale d'évaluation de séparation des signaux SiSEC 2010 (`sisec.wiki.irisa.fr`) dont les résultats ont été présentés à LVA/ICA'10.

Membre du comité local d'organisation de la conférence internationale "Latent Variable Analysis and Signal Separation" (LVA/ICA'10) (`lva2010.inria.fr`), 27 - 30 septembre 2010 à St. Malo.

Coordination de la préparation d'une candidature à un projet européen (STREP) pour le FP7 (ICT Call 1: FP7-ICT-2007-1, Challenge 4: "Digital libraries and Content", Objective 1: "Digital libraries and technology-enhanced learning") avec 5 laboratoires de recherche européens (un en Suède, un en France, un au Danemark, un en Finlande et un en Portugal).

Membre du comité local d'organisation de la conférence internationale "Signal Processing with Adaptative Sparse Structured Representations" (SPARS'05) (`spars05.irisa.fr`), 16 - 18 novembre 2005 à l'IRISA/INRIA - Rennes.

RELECTURE POUR REVUES ET CONFERENCES

[**R**] IEEE Transactions on Audio, Speech and Language Processing (TASLP) - 2005,07,08,09,10,11
[**R**] IEEE Journal of Selected Topics in Signal Processing (J-STSP) - 2010
[**R**] IEEE Signal Processing Letters - 2011
[**R**] EURASIP Signal Processing (Elsevier) - 2007,09,11
[**R**] Neurocomputing (Elsevier) - 2007
[**C**] IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP) - 2008,09,10
[**C**] IEEE Workshop on Applications of Signal Processing to Audio and Acoustics (WASPAA) - 2011
[**C**] Int. Conf. on Independent Component Analysis and Blind Source Separation (ICA) - 2005,10,12
[**C**] European Signal Processing Conference (EUSIPCO) - 2009,10,11
[**C**] International Conference on Music Information Retrieval (ISMIR) - 2007,09
[**C**] International Workshop on Machine Listening in Multisource Environments (CHiME) - 2011
[**C**] Journées d'Etude sur la Parole (JEP) - 2006

PARTICIPATION AUX CAMPAGNES INTERNATIONALES D'EVALUATION

1. Third community-based Signal Separation Evaluation Campaign (SiSEC 2011)
2. The PASCAL 'CHiME' Speech Separation and Recognition Challenge (CHiME 2011)
3. Second community-based Signal Separation Evaluation Campaign (SiSEC 2010)
4. First community-based Signal Separation Evaluation Campaign (SiSEC 2008)

LANGUES ETRANGERES

Français, Anglais : courant
Tchèque : parlé
Suédois, Espagnol : débutant

SEJOURS DE LONGUE DUREE A L'ETRANGER

République Tchèque : 1.5 ans
Suède : 1 an

COMPETENCES EN INFORMATIQUE

Langages : Matlab, C / C++, Perl
O.S. : UNIX / Linux, Windows (95, 98, NT, 2000, XP)

DIVERS

Sport : volley, badminton, squash
Passions : voyager, jouer de la guitare

PUBLICATIONS

Soumis

1. M. Li, J. Klejsa, A. Ozerov and W. B. Kleijn, "Audio Coding with Power Spectral Density Preserving Quantization," *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP'12)*, Kyoto, Japan, March, 2012. (*soumis*)
2. M. Li, A. Ozerov, J. Klejsa and W. B. Kleijn, "Asymptotically optimal distribution preserving quantization for stationary Gaussian processes," *IEEE Transactions on Communications* (*soumis*)
3. S. Arberet, A. Ozerov, F. Bimbot and R. Gribonval, "A tractable framework for estimating and combining spectral source models for audio source separation," *Signal Processing*, special issue on "Latent Variable Analysis and Signal Separation" (*soumis*)

Articles de Revues

1. E. Vincent, S. Araki, F. Theis, G. Nolte, P. Bofill, H Sawada, A Ozerov, V. Gowreesunker, D. Lutter, N.Q.K. Duong, "The Signal Separation Evaluation Campaign (2007–2010): Achievements and remaining challenges," *Signal Processing*, special issue on "Latent Variable Analysis and Signal Separation" (*à paraître*)
2. C. Blandin, A. Ozerov and E. Vincent, "Multi-source TDOA estimation in reverberant audio using angular spectra and clustering," *Signal Processing*, special issue on "Latent Variable Analysis and Signal Separation" (*à paraître*)
3. A. Ozerov, E. Vincent and F. Bimbot, "A general flexible framework for the handling of prior information in audio source separation," *IEEE Trans. on Audio, Speech and Lang. Proc.* (*à paraître*)
4. A. Ozerov and W. B. Kleijn, "Asymptotically optimal model estimation for quantization," *IEEE Transactions on Communications*, vol. 59, no. 4, pp. 1031-1042 , April 2011.
5. A. Ozerov and C. Févotte, "Multichannel nonnegative matrix factorization in convolutive mixtures for audio source separation," *IEEE Trans. on Audio, Speech and Lang. Proc.* special issue on Signal Models and Representations of Musical and Environmental Sounds, vol. 18, no. 3, pp. 550-563, March 2010.
6. A. Ozerov, P. Philippe, F. Bimbot and R. Gribonval, "Adaptation of Bayesian models for single channel source separation and its application to voice / music separation in popular songs," *IEEE Trans. on Audio, Speech and Lang. Proc.*, special issue on Blind Signal Proc. for Speech and Audio Applications, vol. 15, no. 5, pp. 1564–1578, July 2007.
7. A. Ozerov, R. Gribonval, P. Philippe and F. Bimbot, "Choix et adaptation de modèles statistiques pour la séparation de voix chantée à partir d'un seul microphone," *Traitement du signal*, vol. 24, no. 3, pp. 211–224, 2007.

Conférences

1. A. Ozerov, A. Liutkus, R. Badeau and G. Richard, "Informed source separation: source coding meets source separation," In *IEEE Workshop on Applications of Signal Processing to Audio and Acoustics (WASPAA'11)*, Mohonk, NY, Oct. 16-19, 2011.
2. A. Ozerov, M. Lagrange and E. Vincent, "GMM-based classification from noisy features," *International Workshop on Machine Listening in Multisource Environments (CHiME 2011)*, pages 30-35, Florence, Italy, September, 2011.
3. A. Ozerov and E. Vincent, "Using the FASST source separation toolbox for noise robust speech recognition," *International Workshop on Machine Listening in Multisource Environments (CHiME 2011)*, pages 86-87, Florence, Italy, September, 2011.
4. A. Ozerov, C. Févotte, R. Blouet and J.-L. Durrieu, "Multichannel nonnegative tensor factorization with structured constraints for user-guided audio source separation," *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP'11)*, pages 257-260, Prague, May, 2011.
5. C. Blandin, E. Vincent and A. Ozerov, "Multi-source TDOA estimation using SNR-based angular spectra," *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP'11)*, pages 2616 - 2619, Prague, May, 2011.
6. A. Ozerov, E. Vincent and F. Bimbot, "A general modular framework for audio source,separation", In *9th International Conference on Latent Variable Analysis and Signal Separation (LVA/ICA'10)*, pages 33 - 40, Saint-Malo, France, Sep. 27-30, 2010.
7. S. Araki, A. Ozerov, V. Gowreesunker, H. Sawada, F. Theis, G. Nolte, D. Lutter and N.Q.K. Duong, "The 2010 Signal Separation Evaluation Campaign (SiSEC2010): - Audio source separation -", In *9th International Conference on Latent Variable Analysis and Signal Separation (LVA/ICA'10)*, pages 114 - 122, Saint-Malo, France, Sep. 27-30, 2010.
8. S. Araki, F. Theis, G. Nolte, D. Lutter, A. Ozerov, V. Gowreesunker, H. Sawada and N.Q.K. Duong, "The 2010 Signal Separation Evaluation Campaign (SiSEC2010): - Biomedical source separation -", In *9th International Conference on Latent Variable Analysis and Signal Separation (LVA/ICA'10)*, pages 123 - 130, Saint-Malo, France, Sep. 27-30, 2010.
9. C. Févotte and A. Ozerov, "Notes on nonnegative tensor factorization of the spectrogram for audio source separation : statistical insights and towards self-clustering of the spatial cues", In *7th International Symposium on Computer Music Modeling and Retrieval (CMMR 2010)*, 2010.
10. S. Arberet, A. Ozerov, N.Q.K. Duong, E. Vincent, R. Gribonval, F. Bimbot and P. Vandergheynst, "Nonnegative matrix factorization and spatial covariance model for under-determined reverberant audio source separation", In *10th International Conference on Information Sciences, Signal Processing and their applications (ISSPA 2010)*, 2010.
11. A. Ozerov, C. Févotte and M. Charbit, "Factorial scaled hidden Markov model for polyphonic audio representation and source separation", In *IEEE Workshop on Applications of Signal Processing to Audio and Acoustics (WASPAA'09)*, pages 121-124, Mohonk, NY, Oct. 18-21, 2009.
12. J.-L. Durrieu, A. Ozerov, C. Févotte, G. Richard and B. David, "Main instrument separation from stereophonic audio signals using a source/filter model", In EUSIPCO, 17th European Signal Processing Conference, Glasgow, Scotland, August 24-28, 2009..
13. A. Ozerov and C. Févotte, "Multichannel nonnegative matrix factorization in convolutive mixtures. With application to blind audio source separation", In *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP'09)*, pages 3137-3140, Taipei, Taiwan, April 19-24, 2009.
14. A. Ozerov and W. B. Kleijn, "Optimal parameter estimation for model-based quantization," In *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP'09)*, pages 2497-2500, Taipei, Taiwan, April 19-24, 2009.
15. S. Arberet, A. Ozerov, R. Gribonval and F. Bimbot, "Blind spectral-GMM estimation for underdetermined instantaneous audio source separation", In *Proc. Int. Conf. on Independent Component Analysis and Blind Source Separation (ICA'09)*, pages 751-758, Paraty, Brazil, March 15-18, 2009.

16. I. Potamitis and A. Ozerov, "Single channel source separation using static and dynamic features in the power domain," In *EUSIPCO, 16th European Signal Processing Conference*, Laussane, Switzerland, August 25-29, 2008.
17. A. Ozerov, and W. B. Kleijn, "Flexible quantization of audio and speech based on the autoregressive model," In *IEEE Asilomar Conference on Signals, Systems, and Computers (Asilomar CSSC'07)*, pages 535-539, Pacific Grove, CA, Nov. 4-7, 2007.
18. R. Heusdens, W. B. Kleijn and A. Ozerov, "Entropy-constrained high-resolution lattice vector quantization using a perceptually relevant distortion measure," In *IEEE Asilomar Conference on Signals, Systems, and Computers (Asilomar CSSC'07)*, pages 2075-2079, Pacific Grove, CA, Nov. 4-7, 2007.
19. W. B. Kleijn and A. Ozerov, "Rate distribution between model and signal," In *IEEE Worksh. on Apps. of Signal Processing to Audio and Acoustics (WASPAA'07)*, pages 243 - 246, Mohonk, NY, Oct. 2007.
20. A. Ozerov, P. Philippe, R. Gribonval and F. Bimbot, "One microphone singing voice separation using source-adapted models", In *IEEE Worksh. on Apps. of Signal Processing to Audio and Acoustics (WASPAA'05)*, pages 90 - 93, Mohonk, NY, Oct. 2005.
21. A. Ozerov, R. Gribonval, P. Philippe and F. Bimbot, "Séparation voix / musique à partir d'enregistrements mono quelques remarques sur le choix et l'adaptation des modèles", In *GRETSI'05 Symposium on Signal and Image Processing*, Louvain-la-Neuve, Belgique, Sept. 2005.
22. G. Gravier, L. Benaroya, A. Ozerov, R. Gribonval and F. Bimbot, "Séparation de sources à partir d'un seul capteur pour la reconnaissance robuste de la parole", In *Journées d'Etude sur la Parole (JEP'04)*, April 2004.

Brevets

1. A. Ozerov, C. Févotte and R. Blouet, "Automatic source separation via joint use of segmental information and spatial diversity", US patent 13021692, 2011 (*déposé*).
2. S. Arberet, A. Ozerov, R. Gribonval and F. Bimbot, "Procédé et un dispositif d'estimation de signaux de source issus d'un signal de mélange", French patent 2939933, 2010 (publié) and international extension WO2010/076412, 2010 (publié).

Rapports techniques

1. A. Ozerov, S. Essid and M. Charbit, "Reconnaissance des instruments dans la musique polyphonique par décomposition NMF et classification SVM", Technical Report TELECOM ParisTech 2009D014, July 2009.

Thèses

1. A. Ozerov. "Adaptation de modèles statistiques pour la séparation de sources mono-capteur. Application à la séparation voix / musique dans les chansons." PhD thesis, University of Rennes 1, 2006.
2. A. Ozerov. "Représentations robustes pour la reconnaissance automatique de la parole". MSc thesis, DESS "Scientific Calculation and Applications", University of Bordeaux 1, 2003.
3. A. Ozerov. "A criterion of nondisappearance of invariant sets satisfying Krasovsky property under C0 perturbations of right part of the system". MSc thesis, department of Ordinary Differential Equations, Mathematics and Mechanics faculty, St. Petersburg State University, 1999.