

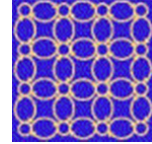
2012 IEEE International Workshop on Machine Learning for Signal Processing

(MLSP 2012)

**Santander, Spain
23 – 26 September 2012**



**IEEE Catalog Number: CFP12NNS-PRT
ISBN: 978-1-4673-1024-6**



Paper Index

[*Facial Expression Recognition With Robust Covariance Estimation And Support Vector Machines*](#) 1

Nicholas Vretos, Anastasios Tefas, Ioannis Pitas

[*Local Distance Metric Learning For Efficient Conformal Predictors*](#) 6

Michael Pekala, Ashley Llorens, I-Jeng Wang

[*Simultaneous And Proportional Control Of 2D Wrist Movements With Myoelectric Signals*](#) 12

Janne Mathias Hahne, Hubertus Rehbaum, Felix Biessmann, Frank C. Meinecke, Klaus-Robert Müller, Ning Jiang, Dario Farina, Lucas C. Parra

[*Landmine Detection With Multiple Instance Hidden Markov Models*](#) 18

Seniha Esen Yuksel, Jeremy Bolton, Paul Gader

[*Handling Missing Features In Maximum Margin Bayesian Network Classifiers*](#) 24

Sebastian Tschiatschek, Nikolaus Mutsam, Franz Pernkopf

[*Classifier-Based Affinities For Clustering Sets Of Vectors*](#) 30

Darío García-García, Raúl Santos-Rodríguez, Emilio Parrado-Hernández

[*ECG-Based Biometrics: A Real Time Classification Approach*](#) 36

Andre Lourenco, Hugo Silva, Ana Fred

[*Prediction Of Respiratory Motion Using Wavelet Based Support Vector Regression*](#) 42

Robert Dürichen, Tobias Wissel, Achim Schweikard

[*Kernel-Based Parametric Validity Index For Assessing Clusters From Microarray Gene Expression Data*](#) 48

Rui Fa, Asoke K Nandi

[*Long Term Human Activity Recognition With Automatic Orientation Estimation*](#) 54

Blanca Florentino-Liaño, Niamh O'mahony, Antonio Artés-Rodríguez

[*ESWT - Tracking Organs During Focused Ultrasound Surgery*](#) 60

C.Grozea, D.Luebke, F.Dingeldey, M.Schiewe, J.Gerhardt, C. Schumann, J. Hirsch

[*Breast Ultrasound Images Gland Segmentation*](#) 66

Rui Braz, António M. G. Pinheiro, J. Moutinho, Mário Freire, Manuela Pereira

[*Blind Separation Of Ballistocardiogram From EEG Via Short And Long-Term Linear Prediction Filtering*](#) 72

Saideh Ferdowsi, Vahid Abolghasemi, Saeid Sanei

[*Comprehensive Analysis Of Multiple Microarray Datasets By Binarization Of Consensus Partition Matrix*](#) 78

Basel Abu-Jamous, Rui Fa, David J. Roberts, Asoke K. Nandi

[Observer And Feature Analysis On Diagnosis Of Retinopathy Of Prematurity](#) 84

Esra Ataer-Cansizoglu, Sheng You, Jayashree Kalpathy-Cramer, Katie Keck, Michael F. Chiang, Deniz Erdogmus

[Level Sets For Retinal Vasculature Segmentation Using Seeds From Ridges And Edges From Phase MAPs](#) 90

Bekir Dizdarođ, Lu, Esra Ataer-Cansizoglu, Jayashree Kalpathy-Cramer, Katie Keck, Michael F. Chiang, Deniz Erdogmus

[Neural Spike Detection And Localisation Via Volterra Filtering](#) 96

Mamadou Mboup

[Complex-Valued Analysis And Visualization Of fMRI Data For Event-Related And Block-Design Paradigms](#) 101

Pedro A. Rodriguez, Vince D. Calhoun, Tulay Adali

[Sequential Nonnegative Tucker Decomposition On Multi-Way Array Of Time-Frequency Transformed Event-Related Potentials](#) 107

Fengyu Cong, Guoxu Zhou, Qibin Zhao, Qiang Wu, Asoke K. Nandi, Tapani Ristaniemi, Andrzej Cichocki

[Sparse Spectral Analysis Of Atrial Fibrillation Electrograms](#) 113

Sandra Monzón, Tom Trigano, David Luengo, Antonio Artés-Rodríguez

[Online Learning For Quality-Driven Unequal Protection Of Scalable Video](#) 119

Amin Abdel Khalek, Constantine Caramanis, Robert W. Heath Jr.

[Fast Design Of Efficient Dictionaries For Sparse Representations](#) 124

Cristian Rusu

[Efficient High Dynamic Range Imaging Via Matrix Completion](#) 129

Grigorios Tsagkatakis, Panagiotis Tsakalides

[Exemplar-Based Image Inpainting: Fast Priority And Coherent Nearest Neighbor Search](#)

Raul Martinez-Noriega, Aline Roumy, Gilles Blanchard

[Differential Edit Distance As A Countermeasure To Video Scene Ambiguity](#)

Panagiotis Sidiropoulos, Vasileios Mezaris, Ioannis Kompatsiaris

[Towards Dictionary Learning From Images With Non Gaussian Noise](#)

P. Chainais

[Fusion Of Local Degradation Features For No-Reference Video Quality Assessment](#)

Martin Dimitrievski, Zoran Ivanovski

[Context Dependent Spectral Unmixing](#)

Hamdi Jenzri, Hichem Frigui, Paul Gader

[A Kullback-Leibler Divergence Approach For Wavelet-Based Blind Image Deconvolution](#)

Abd-Krim Seghouane, Muhammad Hanif

[Microvascular Blood Flow Estimation In Sublingual Microcirculation Videos Based On A Principal Curve Tracing Algorithm](#)

Sheng You, Esra Ataer-Cansizoglu, Deniz Erdogmus, Michael Massey, Nathan Shapiro

[Constrained Spectral Clustering For Image Segmentation](#)

Jamshid Sourati, Dana H. Brooks, Jennifer G. Dy, Deniz Erdogmus

[Hidden Markov Models For Detecting Anomalous Fish Trajectories In Underwater Footage](#)

C. Spampinato, S. Palazzo

[Nonnegative Matrix Factorization Based Self-Taught Learning With Application To Music Genre Classification](#)

Konstantin Markov, Tomoko Matsui

[Joint Feature And Model Training For Minimum Detection Errors Applied To Speech Subword Detection](#)

Magne H. Johnsen, Alfonso Canterla

[Improving Sparse Echo Cancellation Via Convex Combination Of Two NLMS Filters With Different Lengths](#)

Álvaro Gonzalo-Ayuso, Magno T.M. Silva, Vítor H. Nascimento, Jerónimo Arenas-García

[Redundant Time-Frequency Marginals For Chirplet Decomposition](#)

Luis Weruaga

[Single-Sided Objective Speech Intelligibility Assessment Based On Sparse Signal Representation](#)

Giovanni Costantini, Massimiliano Todisco, Renzo Perfetti, Andrea Paoloni, Giovanni Saggio

[Language Informed Bandwidth Expansion](#)

Jinyu Han, Gautham J. Mysore, Bryan Pardo

[2D Sound-Source Localization On The Binaural Manifold](#)

Antoine Deleforge, Radu Horaud

[Optimal Cost Function And Magnitude Power For NMF-Based Speech Separation And Music Interpolation](#)

Brian King, Cédric Févotte, Paris Smaragdis

[Noise-Robust Digit Recognition With Exemplar-Based Sparse Representations Of Variable Length](#)

Emre Yilmaz, Jort F. Gemmeke, Dirk Van Compernelle, Hugo Van Hamme

[Pattern Search In Dysfluent Speech](#)

Juraj Palfy, Jiri Pospichal

[Distributed Microphone Array Processing For Speech Source Separation With Classifier Fusion](#)

Mehrez Souden, Keisuke Kinoshita, Marc Delcroix, Tomohiro Nakatani

[Stereophonic Spectrogram Segmentation Using Markov Random Fields](#)

Minje Kim, Paris Smaragdis, Glenn G. Ko, Rob A. Rutenbar

[Voice Analysis Of Patients With Neurological Disorders Using Acoustical And Nonlinear Tools](#)

María Eugenia Dajer, Paulo Rogério Scalassara, Jamille L. Marrara, José Carlos Pereira

[Kernelizing Geweke's Measures Of Granger Causality](#)

Pierre-Olivier Amblard, Rémy Vincent, Olivier Michel, Cédric Richard

[Stochastic Triplet Embedding](#)

Laurens Van Der Maaten, Kilian Weinberger

[Designing Spatial Filters Based On Neuroscience Theories To Improve Error-Related Potential Classification](#)

Sandra Rousseau, Christian Jutten, Marco Congedo

[Extraction Of Sparse Spatial Filters Using Oscillating Search](#)

Ibrahim Onaran, N. Firat Ince, Aviva Abosch, A. Enis Cetin

[Hierarchical Sparse Brain Network Estimation](#)

Abd-Krim Seghouane, Muhammad Usman Khalid

[Tree-Structured Expectation Propagation For LDPC Decoding Over The AWGN Channel](#)

Luis Salamanca, Juan José Murillo-Fuentes, Pablo M. Olmos, Fernando Pérez-Cruz

[Neural Correlates Of Visual Perception In Rapid Serial Visual Presentation Paradigms](#)

Yonghong Huang, Kenneth Hild, Misha Pavel, Santosh Mathan, Deniz Erdogmus

[Helicopter Vibration Sensor Selection Using Data Visualisation](#)

Waljinder S. Gill, Ian T. Nabney, Daniel Wells

[A Sift-Point Distribution-Based Method For Head Pose Estimation](#)

Nastaran Ghadarghadar, Esra Ataer-Cansizoglu, Peng Zhang, Deniz Erdogmus

[Efficient Optimization For Data Visualization As An Information Retrieval Task](#)

Jaakko Peltonen, Konstantinos Georgatzis

[Modelling Dense Relational Data](#)

Tue Herlau, Morten Mørup, Mikkel N. Schmidt, Lars Kai Hansen

[Optimal Portfolios Under Transaction Costs In Discrete Time Markets](#)

Mehmet A. Donmez, Sait Tunc, Suleyman S. Kozat

[Markov Chain Monte Carlo Inference For Probabilistic Latent Tensor Factorization](#)

Umut Simsekli, Ali Taylan Cemgil

[Recursive Outlier-Robust Filtering And Smoothing For Nonlinear Systems Using The Multivariate Student-T Distribution](#)

Robert Piche, Simo Särkkä, Jouni Hartikainen

[Accelerometer Based Gesture Recognition System Using Distance Metric Learning For Nearest Neighbour Classification](#)

Tea Marasovic, Vladan Papic

[Distributed Variational Sparse Bayesian Learning For Sensor Networks](#)

Thomas Buchgraber, Dmitriy Shutin

[Trading Approximation Quality Versus Sparsity Within Incremental Automatic Relevance Determination Frameworks](#)

Dmitriy Shutin, Thomas Buchgraber

[*Estimation Of The Forgetting Factor In Kernel Recursive Least Squares*](#)

Steven Van Vaerenbergh, Ignacio Santamaria, Miguel Lazaro-Gredilla

[*Latent Dirichlet Learning For Hierarchical Segmentation*](#)

Jen-Tzung Chien, Chuang-Hua Chueh

[*Identifying Modular Relations In Complex Brain Networks*](#)

Kasper Winther Andersen, Morten Mørup, Hartwig Siebner, Kristoffer H Madsen, Lars Kai Hansen

[*Probabilistic Interpolative Decomposition*](#)

Ismail Ari, A. Taylan Cemgil, Lale Akarun

[*Quantifying Spatiotemporal Dynamics Of Twitter Replies To News Feeds*](#)

Felix Bießmann, Jens-Michalis Papaioannou, Andreas Harth, Matthias L. Jügel, Klaus-Robert Müller, Mikio Braun

[*Link Prediction In Weighted Networks*](#)

David Kofoed Wind, Morten Mørup

[*A Random Walk Based Model Incorporating Social Information For Recommendations*](#)

Shang Shang, Sanjeev R. Kulkarni, Paul W. Cuff, Pan Hui

[*Iterative Collaborative Filtering For Recommender Systems With Sparse Data*](#)

Zhuo Zhang, Paul Cuff, Sanjeev Kulkarni

[*Opportunistic Sensing: Unattended Acoustic Sensor Selection Using Crowdsourcing Models*](#)

Po-Sen Huang, Mark Hasegawa-Johnson, Wotao Yin, Thomas S. Huang

[*The Eight Annual MLSP Competition: Overview*](#)

Ken Montanez, Weifeng Liu, Vince D. Calhoun, Catherine Huang, Kenneth E. Hild

[*The Eighth Annual MLSP Competition: First Place Team*](#)

Ankit Gupta, Shashwat Mishra, Amitabha Mukerjee

[*The Eight Annual MLSP Competition: Second Place Team*](#)

Heikki Huttunen, Timo Erkkilä, Pekka Ruusuvuori, Tapio Manninen

[*On Comparing Hard And Soft Fusion Of Dependent Detectors*](#)

Antonio Soriano, Luis Vergara, Gonzalo Safont, Adisson Salazar

[*Sequential Anomaly Detection In A Batch With Growing Number Of Tests: Application To Network Intrusion Detection*](#)

David J. Miller, Fatih Kocak, George Kesidis

[*On The Performance Of Histogram-Based Entropy Estimators*](#)

Ciprian Doru Giurcaneanu, Panu Luosto, Petri Kontkanen

[*An Online Learning Algorithm For Mixture Models Of Deformable Templates*](#)

Florian Maire, Sidonie Lefebvre, Randal Douc, Eric Moulines

[*Online Learning With Kernels: Overcoming The Growing Sum Problem*](#)

Abhishek Singh, Narendra Ahuja, Pierre Moulin

[Nearest Neighbor-Based Importance Weighting](#)

Marco Loog

[Transient Analysis Of Convexly Constrained Mixture Methods](#)

Mehmet A. Donmez, Huseyin Ozkan, Suleyman S. Kozat

[The Discounted Cumulative Margin Penalty: Rank-Learning With A List-Wise Loss And Pair-Wise Margins](#)

Carlos Renjifo, Craig Carmen

[Mahalanobis Distance On Grassmann Manifold And Its Application To Brain Signal Processing](#)

Yoshikazu Washizawa, Seiji Hotta

[Hausdorff And Hellinger For Colorimetric Sensor Array Classification](#)

Tommy S. Alstrøm, Bjørn S. Jensen, Mikkel N. Schmidt, Natalie V. Kotesha, Jan Larsen

[A Subspace Learning Algorithm For Microwave Scattering Signal Classification With Application To Wood Quality Assessment](#)

Yinan Yu, Tomas Mckelvey

[Exploiting Graph Embedding In Support Vector Machines](#)

Georgios Arvanitidis, Anastasios Tefas

[Kernels For Time Series Of Exponential Decay/Growth Processes](#)

Zineb Noumir, Paul Honeine, Cédric Richard

[Temporal Context In Object Recognition](#)

Rakesh Chalasani, Jose C. Principe

[Online Regularized Discriminant Analysis](#)

Umut Orhan, Ang Li, Deniz Erdogmus

[Learning Smooth Models Of Nonsmooth Functions Via Convex Optimization](#)

Fabien Lauer, Van Luong Le, Gérard Bloch

[Nonlinear Data Description With Principal Polynomial Analysis](#)

V. Laparra, D. Tuia, S. Jiménez, G. Camps-Valls, J. Malo

[Perturbation Regulated Kernel Regressors For Supervised Machine Learning](#)

S.Y. Kung, Pei-Yuan Wu

[GLRT For Testing Separability Of A Complex-Valued Mixture Based On The Strong Uncorrelating Transform](#)

David Ramírez, Peter J. Schreier, Javier Vía, Ignacio Santamaría

[A Modified Version Of The Mexico Algorithm For Performing ICA Over Galois Fields](#)

Daniel G. Silva, Everton Z. Nadalin, Jugurta Montalvão, Romis Attux

[A Novel Adaptive Nyström Approximation](#)

Lingyan Sheng, Antonio Ortega

[Learning With The Kernel Signal To Noise Ratio](#)

Luis Gómez-Chova, Gustavo Camps-Valls

[Semisupervised Kernel Orthonormalized Partial Least Squares](#)

Emma Izquierdo-Verdiguier, Jerónimo Arenas-García, Sergio Muñoz-Romero, Luis Gómez-Chova, Gustavo Camps-Valls

[Local Linear Approximation Of Principal Curve Projections](#)

Peng Zhang, Esra Ataer-Cansizoglu, Deniz Erdogmus

[Pseudo Inputs For Pairwise Learning With Gaussian Processes](#)

Jens Brehm Nielsen, Bjørn S. Jensen, Jan Larsen

[Graphical Methods For Inequality Constraints In Marginalized Dags](#)

Robin J. Evans

[Mixture Weight Influence On Kernel Entropy Component Analysis And Semi-Supervised Learning Using The Lasso](#)

Jonas N. Myhre, Robert Jenssen

[On Surrogate Supervision Multiview Learning](#)

Gaole Jin, Raviv Raich

[On The Generalization Ability Of Distributed Online Learners](#)

Zaid J. Towfic, Jianshu Chen, Ali H. Sayed

[A Novel Scheme For Diffusion Networks With Least-Squares Adaptive Combiners](#)

Jesús Fernández-Bes, Luiz A. Azpicueta-Ruiz, Magno T. M. Silva, Jerónimo Arenas-García

[Unsupervised Feature Selection Based On Non-Parametric Mutual Information](#)

Lev Faivishevsky, Jacob Goldberger

[Stochastic Unfolding](#)

Ke Sun, Eric Bruno, Stéphane Marchand-Maillet