

2011 IEEE International Workshop on Machine Learning for Signal Processing

(MLSP 2011)

**Beijing, China
18-21 September 2011**



**IEEE Catalog Number: CFP11NNS-PRT
ISBN: 978-1-4577-1621-8**

TABLE OF CONTENTS

Bayesian Linear Regression For Hidden Markov Model Based On Optimizing Variational Bounds.....	1
<i>Shinji Watanabe, Atsushi Nakamura, Biing-Hwang Juang</i>	
Noise Reduction Using Modified Phase Spectra And Wiener Filter	7
<i>Xin Dang, Takayoshi Nakai</i>	
Representing Fundamental Frequency Contours Generated By HMM-Based Speech Synthesis Using Generation Process Mode	12
<i>Keikichi Hirose, Tatsuya Matsuda, Hiroya Hashimoto, Nobuaki Minematsu</i>	
Fast Alternating Volume Maximization Algorithm For Blind Separation Of Non-Negative Sources.....	18
<i>Tsung-Han Chan, Chang-Jin Song, Arulmurugan Ambikapathi, Chong-Yung Chi, Wing-Kin Ma</i>	
Transformation Invariant Sparse Coding	24
<i>Morten Mørup, Mikkel N. Schmidt</i>	
IVA For Multi-Subject FMRI Analysis: A Comparative Study Using A New Simulation Toolbox.....	30
<i>Josselin Dea, Matthew Anderson, Elena Allen, Vince Calhoun, Tulay Adali</i>	
Metric Measurement From Street View Sequences With Simple Operator Assistance And Phase Correlation Based Frame Selection.....	36
<i>Ersin Ozuag, M. Kemal Gullu, Oguzhan Urhan, Sarp Erturk</i>	
Putting Poses On Manifold For Action Recognition.....	41
<i>Xianbin Cao, Bo Ning, Pingkun Yan, Xuelong Li</i>	
Compact And Robust Fisher Descriptors For Large-Scale Image Retrieval.....	47
<i>Huiwen Cai, Xiaoyan Wang, Yangsheng Wang</i>	
Minimum Classification Error Training With Automatic Setting Of Loss Smoothness	53
<i>Hideyuki Watanabe, Jun'ichi Tokuno, Tsukasa Ohashi, Shigeru Katagiri, Miho Ohsaki</i>	
Semi-Supervised Hierarchy Learning Using Multiple-Labeled Data.....	59
<i>Ailar Javadi, Visar Berisha, Alexander Gray, David V. Anderson</i>	
Pinning The Tail On The Distribution: A Multivariate Extension To The Generalised Pareto Distribution	65
<i>David A. Clifton, Samuel Hugueny, Lionel Tarassenko</i>	
HMM-Based Tianjin Dialect Speech Synthesis Using Bilateral Question Set	71
<i>Qiong Hu, Jianhua Tao, Shifeng Pan, Chunyu Zhao</i>	
Multi-Resolution Inversion Algorithm For The Attenuated Radon Transform	75
<i>Paolo Emilio Barbano, Athanasios S. Fokas</i>	
Inference In Supervised Latent Dirichlet Allocation	81
<i>Balaji Lakshminarayanan, Raviv Raich</i>	
Bayesian Nonparametric Modeling Of Hierarchical Topics And Sentences	87
<i>Ying-Lan Chang, Jui-Jung Hung, Jen-Tzung Chien</i>	
Heteroscedastic Gaussian Process Regression Using Expectation Propagation.....	93
<i>Luis Muñoz-González, Miguel Lázaro-Gredilla, Aníbal R. Figueiras-Vidal</i>	
User And Device Localization Using Probabilistic Device Log Trilateration	99
<i>Guillaume Bouchard, Luis R. Ulloa, Jean-Marc Andreoli, Victor Ciriza, Onno Zoeter</i>	
An Asymptotic Analysis Of Bayesian State Estimation In Hidden Markov Models.....	105
<i>Keisuke Yamazaki</i>	
Two Stage Classifier Chain Architecture For Efficient Pair-Wise Multi-Label Learning.....	111
<i>Dejan Gjorgjevikj, Gjorgji Madjarov</i>	
Combining Object Detection And Brain Computer Interfacing: Towards A New Way Of Subject-Environment Interaction.....	117
<i>Arne Robben, Nikolay Chumerin, Nikolay V. Manyakov, Adrien Combaz, Marijn Van Vliet, Marc M. Van Hulle</i>	
Lesion Detection Of Gastroscopic Images Based On Cost-Sensitive Boosting	123
<i>Kai Sun, Shuheng Zhang, Rui Yao, Wei Yang, Shidan Cheng, Su Zhang</i>	
Decoding Phase-Based Information From Ssvep Recordings: A Comparative Study	129
<i>Nikolay Manyakov, Nikolay Chumerin, Adrien Combaz, Arne Robben, Marijn Van Vliet, Marc Van Hulle</i>	
Animating A Chinese Interactive Virtual Character.....	135
<i>Kaihui Mu, Jianhua Tao, Minghao Yang</i>	
Dimensionality Reduction For EEG Classification Using Mutual Information And SVM.....	140
<i>Carlos Guerrero-Mosquera, Michel Verleysen, Angel Navia Vazquez</i>	
A Block-Based Approach To Adaptively Bias The Weights Of Adaptive Filters.....	146
<i>Luis A. Azpícueta-Ruiz, Miguel Lázaro-Gredilla, Aníbal R. Figueiras-Vidal, Jerónimo Arenas-García</i>	

Operator Based Multicomponent AM-FM Signal Separation Approach	152
<i>Xiyuan Hu, Silong Peng, Wen-Liang Hwang</i>	
Underdetermined Convulsive Blind Source Separation Using A Novel Mixing Matrix Estimation And MMSE-Based Source Estimation	158
<i>Janghoon Cho, Jinho Choi, Chang D. Yoo</i>	
Cooperative Data Censoring For Energy-Efficient Communications In Sensor Networks	164
<i>Jesús Fernández-Bes, Rocío Arroyo-Valles, Jesús Cid-Sueiro</i>	
Spontaneous Facial Expression Recognition By Using Feature-Level Fusion of Visible and Thermal Infrared Images	170
<i>Zhaoyu Wang, Shangfei Wang</i>	
A Super-Resolution Method For Recognition Of License Plate Character Using LBP And RBF	176
<i>Xiaoxuan Chen, Chun Qi</i>	
Semipolynomial Kernel Optimization Based On The Fisher Method	181
<i>Elham Taghizadeh, Zahra Sadeghipoor, Mohammad T. Manzuri</i>	
Diagnosing Coronary Heart Disease From Long-Term ECG Signals	187
<i>Linglin Yin, Yiqiang Chen, Wen Ji</i>	
Gaussian Process For Human Motion Modeling: A Comparative Study	191
<i>Guoliang Fan, Xin Zhang, Meng Ding</i>	
Ensemble Ranking SVM For Learning To Rank	197
<i>Cheolkon Jung, L. C. Jiao, Yanbo Shen</i>	
A Maximum Likelihood Approach For Independent Vector Analysis Of Gaussian Data Sets	203
<i>Javier Via, Matthew Anderson, Xi-Lin Li, Tulay Adali</i>	
Stochastic Kernel Temporal Difference For Reinforcement Learning	209
<i>Jihye Bae, Luis Sanchez Giraldo, Pratik Chhatbar, Joseph Francis, Justin Sanchez, Jose Principe</i>	
Ringing Artifact Reduction Of JPEG Images Using A SGLI Prior	215
<i>Cheolkon Jung, L. C. Jiao</i>	
Approximating The Predictive Distribution Of The Beta Distribution With The Local Variational Method	219
<i>Zhanyu Ma, Arne Leijon</i>	
Bayesian Compressive Sensing Using Iterated Conditional Modes	225
<i>Robert M. Taylor Jr.</i>	
Efficient Preference Learning With Pairwise Continuous Observations And Gaussian Processes	231
<i>Bjørn Sand Jensen, Jens Brehm Nielsen, Jan Larsen</i>	
Graph Based Partially Supervised Learning Of Documents	237
<i>Lingyan Sheng, Antonio Ortega</i>	
A Reproducing Kernel Hilbert Space Formulation Of The Principle Of Relevant Information	243
<i>Luis G. Sanchez Giraldo, Jose C. Principe</i>	
Irregular Tree-Structured Bayesian Network For Image Segmentation	249
<i>Kittipat Kampa, Duangmanee Putthividhya, Jose C. Principe</i>	
A Robust Point Matching Algorithm For Non-Rigid Registration Using The Cauchy-Schwarz Divergence	255
<i>Erion Hasanbelliu, Luis Sanchez Giraldo, Jose C. Principe</i>	
Infinite Multiple Relational Models For Complex Networks	261
<i>Morten Morup, Mikkel N. Schmidt, Lars K. Hansen</i>	
Bayesian Feature Selection For Sparse Topic Model	267
<i>Ying-Lan Chang, Kuen-Feng Lee, Jen-Tzung Chien</i>	
A Bayesian Approach To Tracking With Kernel Recursive Least-Squares	273
<i>Miguel Lazaro-Gredilla, Steven Van Vaerenbergh, Ignacio Santamaria</i>	
Data Representation And Feature Selection For Colorimetric Sensor Arrays Used As Explosives Detectors	279
<i>Tommy S. Alstrøm, Jan Larsen, Natalie V. Kostesha, Mogens H. Jakobsen, Anja Boisen</i>	
Protein Subcellular Localization Prediction Based On Profile Alignment And Gene Ontology	285
<i>Shibiao Wan, Man-Wai Mak, Sun-Yuan Kung</i>	
An Adaptive Decoder From Spike Trains To Micro-Stimulation Using Kernel Least-Mean-Squares (KLMS)	291
<i>Lin Li, Il Memming Park, Sohan Seth, John S. Choi Joseph T. Francis, Justin C. Sanchez, Jose C. Principe</i>	
Watching Pattern Distribution Via Massive Character Recognition	297
<i>Seiichi Uchida, Wenjie Cai, Akira Yoshida, Yaokai Feng</i>	
Minimum Classification Error Training With Geometric Margin Enhancement For Robust Pattern Recognition	303
<i>Hideyuki Watanabe, Shigeru Katagiri, Miho Ohsaki</i>	

Optimization Of Average Precision With Maximal Figure-Of-Merit Learning	309
<i>Iseo Kim, Chin-Hui Lee</i>	
Fast Multi-Class Sample Reduction For Speeding Up Support Vector Machines	315
<i>Jingnian Chen, Cheng-Lin Liu</i>	
A New I-Vector Approach And Its Application To Irrelevant Variability Normalization Based Acoustic Model Training	321
<i>Yu Zhang, Zhijie Yan, Qiang Huo</i>	
MLSP2011 Competition: Face Recognition With Integrating Of Multiple Cues	327
<i>Zhao-Cui Han, Xu-Sheng Tang, Yun Feng Li, Guo-Qiang Wang, Tie-Ming Su, Fan Ou, Zong-Ying Ou, Wen-Ji Xu</i>	
Kernel Entropy Component Analysis: New Theory And Semi-Supervised Learning	333
<i>Robert Jenssen</i>	
Parametric Validity Index Of Clustering For Microarray Gene Expression Data	339
<i>Rui Fa, Asoke K Nandi</i>	
Active One-Class Learning By Kernel Density Estimation	345
<i>Alireza Ghasemi, Mohammad T. Manzuri, Hamid R. Rabiee, Mohammad H. Rohban, Siavash Haghighi</i>	
Semi-Blind Kurtosis Maximization Algorithm Applied To Complex-Valued FMRI Data	351
<i>Qiu-Hua Lin, Jia-Cheng Wang, Xiao-Feng Gong, Jian-Lin Wu, Jun-Yu Chen, Vince D. Calhoun</i>	
Efficient Temporal Decomposition Of Local Field Potentials	357
<i>Austin J. Brockmeier, José C. Príncipe, Babak Mahmoudi, Justin C. Sanchez</i>	
Deflation Technique For Neural Spike Sorting In Multi-Channel Recordings	363
<i>Zoran Tiganj, Mamadou Mboup</i>	
Multi-Parametric Solution-Path Algorithm For Instance-Weighted Support Vector Machines	369
<i>Masayuki Karasuyama, Naoyuki Harada, Masashi Sugiyama, Ichiro Takeuchi</i>	
Collaborative Learning Of Mixture Models Using Diffusion Adaptation	375
<i>Zaid J. Towfic, Jianshu Chen, Ali H. Sayed</i>	
Convex Optimization For Exact Rank Recovery In Topic Models	381
<i>Behrouz Behmardi, Raviv Raich</i>	
Image Segmentation Via Manifold Spectral Clustering	387
<i>Cheolkon Jung, L. C. Jiao, Juan Liu, Yanbo Shen</i>	
Collaborative Kalman Filters For Vehicle Tracking	393
<i>Xianbin Cao, Zhengrong Shi, Pingkun Yan, Xuelong Li</i>	
An Outlier Rejection Scheme For Optical Flow Tracking	399
<i>Minghao Yang, Jianhua Tao, Kaihui Mu, Jianfeng Che</i>	
Detection Of Playfield With Shadow And Its Application To Player Tracking	403
<i>Yang Liu, Maozu Guo, Wanyu Liu</i>	
Robust Online Estimation Of The Vanishing Point For Vehicle Mounted Cameras	408
<i>Nikhil Gupta, Hilda Faraji, Daan He, Ghanshyam Rath</i>	
Speaker Segmentation And Clustering Based On The Improved Spectral Clustering	414
<i>Yong Ma, Chang-Chun Bao, Jia Liu</i>	
Methods For Learning Adaptive Dictionary In Underdetermined Speech Separation	419
<i>Tao Xu, Wenwu Wang</i>	
Search Free Algorithms For Doa Estimation Of Quasi-Stationary Signals	425
<i>Wei-Tao Zhang, Shun-Tian Lou</i>	
An Excitation Model Based On Inverse Filtering For Speech Analysis And Synthesis	430
<i>Zhengqi Wen, Jianhua Tao</i>	
Acoustic Surveillance Based On Higher-Order Local Auto-Correlation	435
<i>Akira Sasou</i>	
Modeling Musicological Information As Trigrams In A System For Simultaneous Chord And Local Key Extraction	440
<i>Johan Pauwels, Jean-Pierre Martens, Marc Lemans</i>	
Heterogeneous Mixture Models Using Sparse Representation Features For Applause And Laugh Detection	446
<i>Ziqiang Shi, Jiqing Han, Tieran Zheng</i>	
False Alarm Reduction By Improved Filler Model And Post-Processing In Speech Keyword Spotting	451
<i>Amirhossein Tavanaei, Hossein Sameti, Seyed Hamidreza Mohammadi</i>	
Speaker Recognition With Rival Penalized EM Training	456
<i>Avi Matza, Yuval Bistritz</i>	
Learning Distances To Improve Phoneme Classification	462
<i>Ryan Curtin, Nikolaos Vasiloglou, David V. Anderson</i>	
Implementation And Evaluation Of Statistical Parametric Speech Synthesis Methods For The Persian Language	468
<i>Sara Bahaadini, Hossein Sameti, Soheil Khorram</i>	

A Sinusoidal Audio And Speech Analysis/Synthesis Model Based On Improved Emd By Adding Pure Tone	474
<i>Xiao-Ming Li, Chang-Chun Bao, Mao-Shen Jia</i>	
Persian Language Understanding Using A Two-Step Extended Hidden Vector State Parser	479
<i>Fattaneh Jabbari, Hossein Sameti, Mohammad Hadi Bokaei</i>	
A Cloud Computing Service For Fast Audio Signal Source Separation	485
<i>Tyng-Yeu Liang, Ti-Hsin Wang, Meng-Te Chou, Shiou-Wen Chen</i>	
Large Scale Topic Modeling Made Practical	491
<i>Bjarne Ørrum Wahlgreen, Lars Kai Hansen</i>	
Determining The Number Of Sources In High-Density EEG Recordings Of Event-Related Potentials By Model Order Selection	497
<i>Fengyu Cong, Zhaoshui He, Jarmo Hämäläinen, Andrzej Cichocki, Tapani Ristaniemi</i>	
A Practical Approach For Depth Estimation And Image Restoration Using Defocus Cue	503
<i>Keyur R. Ranipa, M. V. Joshi</i>	
Non-Parametric Co-Clustering Of Large Scale Sparse Bipartite Networks On The Gpu	509
<i>Toke Jansen Hansen, Morten Mørup, Lars Kai Hansen</i>	
Top-Down Attention With Features Missing At Random	515
<i>Seliz G. Karadogan, Letizia Marchegiani, Jan Larsen, Lars Kai Hansen</i>	
A Convolutional Spectral Decomposition Approach To The Separation Of Feedback From Target Speech	521
<i>Gautham J. Mysore, Paris Smaragdis</i>	
Second Order Impropriety Based Complex-Valued Algorithm For Frequency-Domain Blind Separation Of Convolutional Speech Mixtures	527
<i>Fengyu Cong, Qiu-Hua Lin, Peng Jia, Xizhi Shi, Tapani Ristaniemi</i>	
Estimation Of Periodicity In Non-Uniformly Sampled Astronomical Data Using A 2D Kernel In Correntropy	533
<i>Bibhu P Mishra, Jose C Principe, Pablo A. Estevez, Pavlos Protopapas</i>	
Patch-Based Markov Random Fields For Fast Face Occlusion Recovery	539
<i>Jeong-Min Yun, Seungjin Choi</i>	
A Randomized Heuristic For Kernel Parameter Selection With Large-Scale Multi-Class Data	545
<i>Toke Jansen Hansen, Trine Julie Abrahamsen, Lars Kai Hansen</i>	
A New Scatter-Based Multi-Class Support Vector Machine	551
<i>Robert Jenssen, Marius Kloft, Soren Sonnenburg, Alexander Zien, Klaus-Robert Muller</i>	
Author Index	