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Nota di contenuto	Keynote Talks -- Multimodal Speech Separation -- Audio Source Separation Using Hierarchical Phase-Invariant Models -- Visual Cortex Performs a Sort of Non-linear ICA -- Contributed Talks -- High Quality Emotional HMM-Based Synthesis in Spanish -- Glottal Source

Estimation Using an Automatic Chirp Decomposition -- Automatic Classification of Regular vs. Irregular Phonation Types -- The Hartley Phase Spectrum as an Assistive Feature for Classification -- Speech Enhancement for Automatic Speech Recognition Using Complex Gaussian Mixture Priors for Noise and Speech -- Improving Keyword Spotting with a Tandem BLSTM-DBN Architecture -- Score Function for Voice Activity Detection -- Digital Watermarking: New Speech and Image Applications -- Advances in Ataxia SCA-2 Diagnosis Using Independent Component Analysis -- Spectral Multi-scale Product Analysis for Pitch Estimation from Noisy Speech Signal -- Automatic Formant Tracking Method Using Fourier Ridges -- Robust Features for Speaker-Independent Speech Recognition Based on a Certain Class of Translation-Invariant Transformations -- Time-Frequency Features Extraction for Infant Directed Speech Discrimination -- Wavelet Speech Feature Extraction Using Mean Best Basis Algorithm -- Perceptually Motivated Generalized Spectral Subtraction for Speech Enhancement -- Coding of Biosignals Using the Discrete Wavelet Decomposition -- Reducing Features from Pejibaye Palm DNA Marker for an Efficient Classification -- Mathematical Morphology Preprocessing to Mitigate AWGN Effects: Improving Pitch Tracking Performance in Hard Noise Conditions -- Deterministic Particle Filtering and Application to Diagnosis of a Roller Bearing -- Applications of Cumulants in Speech Processing -- The Growing Hierarchical Recurrent Self Organizing Map for Phoneme Recognition -- Phoneme Recognition Using Sparse Random Projections and Ensemble Classifiers.

Sommario/riassunto

This volume contains the proceedings of NOLISP 2009, an ISCA Tutorial and Workshop on Non-Linear Speech Processing held at the University of Vic (- talonia, Spain) during June 25-27, 2009. NOLISP2009wasprecededbythreeeditionsofthisbiannualeventheld2003 in Le Croisic (France), 2005 in Barcelona, and 2007 in Paris. The main idea of NOLISP workshops is to present and discuss new ideas, techniques and results related to alternative approaches in speech processing that may depart from the mainstream. In order to work at the front-end of the subject area, the following domains of interest have been de?ned for NOLISP 2009: 1. Non-linear approximation and estimation 2. Non-linear oscillators and predictors 3. Higher-order statistics 4. Independent component analysis 5. Nearest neighbors 6. Neural networks 7. Decision trees 8. Non-parametric models 9. Dynamics for non-linear systems 10. Fractal methods 11. Chaos modeling 12. Non-linear di?erential equations The initiative to organize NOLISP 2009 at the University of Vic (UVic) came from the UVic Research Group on Signal Processing and was supported by the Hardware-Software Research Group. We would like to acknowledge the ?nancial support obtained from the M- istry of Science and Innovation of Spain (MICINN), University of Vic, ISCA, and EURASIP. All contributions to this volume are original. They were subject to a doub- blind refereeing procedure before their acceptance for the workshop and were revised after being presented at NOLISP 2009.