

Table of Contents

Invited Papers

Multiclassifier Systems: Back to the Future	1
<i>J. Ghosh</i>	
Support Vector Machines, Kernel Logistic Regression and Boosting	16
<i>J. Zhu, T. Hastie</i>	
Multiple Classification Systems in the Context of Feature Extraction and Selection	27
<i>Š. Raudys</i>	

Bagging and Boosting

Boosted Tree Ensembles for Solving Multiclass Problems	42
<i>T. Windeatt, G. Ardeshir</i>	
Distributed Pasting of Small Votes	52
<i>N. V. Chawla, L.O. Hall, K.W. Bowyer, T.E. Moore, Jr., W.P. Kegelmeyer</i>	
Bagging and Boosting for the Nearest Mean Classifier: Effects of Sample Size on Diversity and Accuracy	62
<i>M. Skurichina, L.I. Kuncheva, R.P.W. Duin</i>	
Highlighting Hard Patterns via Adaboost Weights Evolution	72
<i>B. Caprile, C. Furlanello, S. Merler</i>	
Using Diversity with Three Variants of Boosting: Aggressive, Conservative, and Inverse	81
<i>L.I. Kuncheva, C.J. Whitaker</i>	

Ensemble Learning and Neural Networks

Multistage Neural Network Ensembles	91
<i>S. Yang, A. Browne, P.D. Picton</i>	
Forward and Backward Selection in Regression Hybrid Network	98
<i>S. Cohen, N. Intrator</i>	
Types of Multinet System	108
<i>A.J.C. Sharkey</i>	

Discriminant Analysis and Factorial Multiple Splits in Recursive
Partitioning for Data Mining 118
F. Mola, R. Siciliano

Design Methodologies

New Measure of Classifier Dependency in Multiple Classifier Systems 127
D. Ruta, B. Gabrys

A Discussion on the Classifier Projection Space for Classifier Combining .. 137
E. Pekalska, R.P.W. Duin, M. Skurichina

On the General Application of the Tomographic Classifier Fusion
Methodology 149
D. Windridge, J. Kittler

Post-processing of Classifier Outputs in Multiple Classifier Systems..... 159
H. Altınçay, M. Demirekler

Combination Strategies

Trainable Multiple Classifier Schemes for Handwritten Character
Recognition 169
K. Sirlantzis, S. Hoque, M.C. Fairhurst

Generating Classifiers Ensembles from Multiple Prototypes and Its
Application to Handwriting Recognition 179
S. Günter, H. Bunke

Adaptive Feature Spaces for Land Cover Classification with Limited
Ground Truth 189
*J.T. Morgan, A. Henneguelle, M.M. Crawford, J. Ghosh,
A. Neuenschwander*

Stacking with Multi-response Model Trees..... 201
S. Džeroski, B. Ženko

On Combining One-Class Classifiers for Image Database Retrieval..... 212
C. Lai, D.M.J. Tax, R.P.W. Duin, E. Pekalska, P. Paclík

Analysis and Performance Evaluation

Bias-Variance Analysis and Ensembles of SVM 222
G. Valentini, T.G. Dietterich

An Experimental Comparison of Fixed and Trained Rules for Crisp
Classifiers Outputs 232
F. Roli, Š. Raudys, G.L. Marcialis

Reduction of the Boasting Bias of Linear Experts	242
<i>A. Janeliūnas, Š. Raudys</i>	
Analysis of Linear and Order Statistics Combiners for Fusion of Imbalanced Classifiers	252
<i>F. Roli, G. Fumera</i>	
Applications	
Boosting and Classification of Electronic Nose Data	262
<i>F. Masulli, M. Pardo, G. Sberveglieri, G. Valentini</i>	
Content-Based Classification of Digital Photos	272
<i>R. Schettini, C. Brambilla, C. Cusano</i>	
Classifier Combination for <i>In Vivo</i> Magnetic Resonance Spectra of Brain Tumours	282
<i>J. Minguillón, A.R. Tate, C. Arús, J.R. Griffiths</i>	
Combining Classifiers of Pesticides Toxicity through a Neuro-fuzzy Approach	293
<i>E. Benfenati, P. Mazzatorta, D. Neagu, G. Gini</i>	
A Multi-expert System for Movie Segmentation	304
<i>L.P. Cordella, M. De Santo, G. Percannella, C. Sansone, M. Vento</i>	
Decision Level Fusion of Intramodal Personal Identity Verification Experts	314
<i>J. Kittler, M. Ballette, J. Czyz, F. Roli, L. Vanderdorpe</i>	
An Experimental Comparison of Classifier Fusion Rules for Multimodal Personal Identity Verification Systems	325
<i>F. Roli, J. Kittler, G. Fumera, D. Muntoni</i>	
Author Index	337