ppmls

ECML 2007 PKDD

Call for Papers: Principles and Practice of Multiple Learning Systems
A one-day Workshop of ECML, Sept 21 2007, Warsaw, Poland

Multiple Learning Systems, aka multiple classifier systems, ensembles, information fusion, have emerged as one of the strongest pattern recognition techniques of the last decade, influencing every area of Machine Learning and Data Mining. All techniques in this family rely on the general principle of *combining information* from compatible sources, whether they be classifiers, regressors, clusters, kernels, proximity measures, or *procedures*.

On a deeper level, the "combining" principle has recently been extended in several new directions. Semi-supervised learning, multi-objective learning, changing environments, kernel combining methods are all utilizing this principle. These are in general, *Multiple Learning Systems*; this workshop aims to highlight these advanced uses of the "combining" principle, right across the spectrum of machine learning and data mining.

Workshop Goals : The goal of this workshop is to bring together researchers that work with the combining principle in a very broad sense, from the theory of classifier ensembles through to meta-learning such as the integration of complementary learning methodologies. We aim to provide a platform for exchanging ideas between people from different sub-fields of machine learning and data mining. We aim to discuss the state-of-the-art techniques, ideas originating from various subfields of computational intelligence and to be representative of the remaining open problems in the field.

Learning schemes
 Classifier selection vs combination
 Boosting and Bagging methods
 Rule Ensembles
 Feature subspaces / feature projections
 Learning classifier systems

Paradigm Combination
 Combining Objective Functions
 Combining Generative/Discriminative Models
 Combining Kernels
 Combining Statistical and Structural Techniques
 Combining Proximity Measures

Theory
 Methods of Combination
 Diversity Measures
 Weak vs Strong Models + Overfitting
 Handling data outliers
 Selection vs Combination

Data Flexibility
 MLS in changing environments
 Cluster Ensembles
 Stream Mining
 Learning from Distributed Data
 Semi-Supervised MLS

Applications : *Image classification/retrieval, data mining, text mining, computer vision, biometrics*

We particularly welcome novel ideas on combination of **complementary methodologies**, understood in a broad sense, such as combination of generative and discriminative models or probabilistic and information theoretic models for learning.

Workshop website: http://www.cs.man.ac.uk/~gbrown/ppmls/

Submissions to: ppmls@cs.man.ac.uk , Deadline : JUNE 30th

Organisers: Dr Gavin Brown and Dr Elzbieta Pekalska, University of Manchester, UK
Invited Speaker: Dr Ludmila Kuncheva, University of Bangor, Wales

Extended versions of selected papers will be collated for a Springer book volume in early 2008.