

A Workshop Proposal for ECML 2007:

Principles and Practice of Multiple Learning Systems

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A brief technical description of the specific technical issues that the workshop will address.

The workshop aims to be representative of the current state-of-the-art in Multiple Learning Systems. This encompasses not only the well-known classifier ensembles idea, but also the broader concept of combining learning *methodologies*. We aim to attract papers addressing theory/practice in particularly challenging domains such as non-stationarity domains and massive online stream mining, and the latest theoretical questions including discriminative/generative learning, probabilistic/information-theoretic learning, and kernel combining methods.

The reasons why the workshop is of interest this time.

The combining paradigm has had a profound impact on pattern recognition over the last decade, of interest to a wide community from theorists in Machine Learning to practitioners in Data Mining. This will be the first ECML workshop to address the issue explicitly, incorporating applications of current methods, open theoretical questions, priorities for different application domains, and advanced aspects of the *combining principle* such as the compatibility of different learning *algorithms*.

The names, postal and email addresses, phone and fax numbers of the Workshop Chairs.

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The names, affiliations and email addresses of the Workshop Program Committee

- Robert Duin (Delft, Netherlands), r.duin@ieee.org
- Giorgio Fumera (Calgiari, Sardinia), fumera@diee.unica.it
- Tin Kam Ho (Bell Labs, USA), tkh@research.bell-labs.com
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- Terry Windeatt (Surrey, UK), t.windeatt@surrey.ac.uk
- Jeremy Wyatt (Birmingham, UK), jlw@cs.bham.ac.uk

(We have contacted all of the above and all have agreed to serve.)

A list of previously-organized related workshops by any of the Workshop Chairs.

Brown: Workshop on Ensemble Theory and Practice, University of Birmingham, November 2004

How the workshop will be publicized.

Emails will be sent to the Connectionists mailing list, the Multiple Classifier Systems mailing list, and several individual research groups at the institutions of the programme committee members.

A summary of the intended workshop Call for Participation.

Attached to this application, see also the preliminary workshop website at:

<http://www.cs.man.ac.uk/~gbrown/ppmls/>

We have secured Dr Ludmila Kuncheva as invited speaker for the workshop. Dr Kuncheva is widely recognised as a leading figure in the field, having authored over 70 publications on the topic, including the central textbook, "Combining Pattern Classifiers". We will also organise a poster session, encouraging unfinished or controversial work that may invite debate. **We also intend to propose a tutorial on this topic if the workshop is of interest to the ECML chairs.**

Plans to document the workshop results (beyond ECML/PKDD publication).

Proceedings will be published online and provided to participants.

Oza (on our program committee) is an associate editor with the Journal of Information Fusion, and has confirmed that given sufficient submissions, a special issue on this topic is of interest at this time.

Ideal duration of the workshop (three/ four sessions).

Three sessions.

A list of audio-visual or technical requirements and any special room requirements.

A data projector and sufficient space/equipment to organise a poster session if it is of interest to the ECML chairs.