

**Report of TC3**  
**Neural Networks and Computational Intelligence**  
**January 1, 2009 – June 30, 2010**

**TC3 Board Members**

**Friedhelm Schwenker (Chair)**  
University of Ulm, Germany

**Neamat El Gayar (Vice Chair)**  
Nile University Cairo, Egypt

**Edmondo Trentin**  
University of Siena, Italy

**Markus Hagenbuchner**  
University of Wollongon, Australia

## **1. 1. TC Background Information**

### **1.1. Listing of TC Leadership Team**

TC3 Board Members

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Nile University Cairo, Egypt

Edmondo Trentin  
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University of Wollongong, Australia

### **1.2. TC website URL**

TC3 website (hosted at the University Ulm, Germany) :  
<http://www.uni-ulm.de/in/neuroinformatik/iapr-tc3.html>

### **1.3. Number of members (people on mailing list)**

190 researches are members of the TC3 mailing list.

### **1.4. Communication types used (e.g. newsletters) and frequency**

Newsletters and conference information (approx. 10 per year)

### **1.5. Listing of key event(s) usually organised by the TC**

ANNPR workshop. In 2010 MCS has been organized by TC vice chair Prof. Neamat El Gayar.

## **2. Activities in the last two years (since ICPR2008)**

After six years Simone Marinai finished his service as chair and co-chair for TC3. Together with Marco Gori he organized the TC's first workshop on Artificial Neural Networks for Pattern Recognition in Florence; as a general chair he organized the following ANNPR 2006 in Ulm and ANNPR 2008 in Paris. He has done a great job in organizing the TC3 and the ANNPR workshops. Thank you very much Simone for all your work and good luck in the

future! In February 2009 the IAPR EXCo appointed Friedhelm Schwenker as new TC3 Chair for the next term.

Since June 2009 Neamat El Gayar (Egypt) is the vice chair of TC3; Edmondo Trentin (Italy) and Markus Hagenbuchner (Australia) have been appointed in July 2009 as two additional members of the TC3 Board to increase the organizational structure and the visibility of our TC.

## **2.1. Website updates**

The TC3 website (hosted at the University Ulm, Germany) has been re-organized see: <http://www.uni-ulm.de/in/neuroinformatik/iapr-tc3.html>)

### **2.1.1. Educational information**

Demo tools for various neural network learning methods have been implemented during the last 2 years. In the future we will add more demo tools, and additional tutorial material.

## **2.2 Research Initiatives**

### **2.2.1. Events organised**

For ANNPR 2010 the TC received three excellent proposals from the Universities of Naples, Beijing, and Cairo. All three proposals were carried out perfectly, and we'd like to thank the organizers for their time and effort for preparing the proposals. In January 2009, the organizers of the previous ANNPR workshops, namely Simone Marinai, Friedhelm Schwenker, Lionel Prevost selected Cairo as the host of ANNPR 2010.

The ANNPR 2010 was held at the Nile University April, 11-13. The IAPR TC1 workshop on Multiple Classifier Systems (MCS 2010) held from April 7-9. Proceedings are published as a volume of the Springer LNAI series (Volume 5998). See the appendix for an ANNPR-Report.

## **3. Plans (timeline until ICPR2012 and beyond)**

Workshop activity will be increased during the next years. One option is to have annual ANNPR workshop meetings, this because we had 3 proposals for hosting ANNPR 2010 which shows a lot of interest in ANNPR. Another direction is in organizing additional specialized workshops on topics related to our TC, for instance recurrent neural nets for pattern recognition, bio-inspired neural nets, information fusion, neural network ensembles,

The plan is to organize a workshop on “Combinations of Unsupervised and Supervised Learning for Pattern Analysis” in Summer 2011. The objective is to focus on recently developed learning schemes, such as semi-supervised, and active learning.

During the Summer 2010 we will send out a new Call for Proposals for ANNPR 2012.

## **Appendix**

### **ANNPR 2010 Report**

(By Thibaud Senechal and Stefan Faußer)

The 4<sup>th</sup> workshop on Artificial Neural Networks in Pattern Recognition, short ANNPR 2010, provides a forum for international researchers in all areas of neural network based pattern recognition to present and discuss their results and to exchange their knowledge and ideas. The workshop was co-organized by Dr. Neamat El Gayar (Nile University, Cairo, Egypt) and Dr. Friedhelm Schwenker (Ulm University, Germany) and took place at the Nile University in Cairo, Egypt.

The ANNPR 2010 was sponsored by the Technical Committee on Neural Networks and Computational Intelligence (TC3) of the International Association for Pattern Recognition (IAPR). The scope of TC3 includes computational intelligence approaches, evolutionary computing and artificial neural networks and their pattern recognition applications. For the ANNPR 2010, a total of 42 papers were submitted from which 23 high-quality papers were selected for oral presentation. About 35 participants from four continents (Europe, Asia, North America and Africa) attended the workshop. The 4<sup>th</sup> workshop were very successful like the last ones and follows the third in Paris (France, 2008), the second in Ulm (Germany, 2006) and the first in Florence (Italy, 2003). During three days, the attendees presented their papers organized in sessions including Supervised Learning, Application, Unsupervised Learning and Visual Pattern Recognition. For each oral session the allotted time were 30 minutes to present the paper and for discussions. The attending researchers were very interested and had indeed plenty of questions and suggestions that lasted up into or even during the breaks or lunch. There were enough coffee breaks to furthermore discuss topics and to get to know each other.

Additionally three splendid invited talks were given during the program. The invited talk „Clustering very large dissimilarity data sets“ which addresses the highly complicated task to cluster data sets that cannot be clustered at once due to their massive size was given by Prof. Dr. Barbara Hammer (University Bielefeld, Germany). Prof. Dr. Horst Bunke (University Bern, Switzerland) gave an excellent

talk titled „Classification and clustering of graphs based on dissimilarity space embedding“ where he emphasized on combining the graphy theory and kernel methods for clustering and classification as well. In the talk „Gaussian Processes for Classification“ Prof. Dr. Amir Atiya (Cairo University, Egypt) suggested that the fitting of a multivariate Gaussian distribution to the data is an experimentally-proven good way for classifying. Thanks to the excellent organisation of the hosts at Nile University: The participants had a very friendly welcome reception to the new Campus at the Nile University on the first day; the social program included a delightful banquet during a cruiser tour on the Nile and a trip to the Great Pyramid of Giza close to the Sphinx, and an interesting visit to the Smart Village.

Greetings to all participants and we hope to see everyone again in the next ANNPR workshop.

The proceedings are published by Springer:

