IPTA 2012

International Conference on Image Processing Theory, Tools & Applications

http://ipta12.ibisc.univ-evry.fr

October 15-18, 2012, Istanbul – Turkey

Call For Special Session

EURASIP

IEEE

Special Session Chair(s):

Concetto Spampinato, Catania, Italy

Tommaso Mazza, Roma, Italy

Marco Aldinucci, Torino, Italy

Title: High Performance Computing in Computer Vision Applications (HPC-CVA)

Aims & topics:

With the growth of Internet and the advances in computer power, computer vision techniques are developing at impressive rates. Although most of the existing approaches are mainly focused at achieving high accuracy, efficiency is still a major concern of the whole machine vision community. The development of efficient techniques that perform either onthe-fly or in real-time in almost all the fields of computer vision from image formation to image coding to image analysis to multimedia processing makes the design/adoption of high performance solutions a pressing demand. Moreover, the application of high performance computing (HPC) to computer vision field is straightforward, due to the inherent parallelism of images, as demonstrated by the fact that computer vision has been one of the most common areas of HPC application.

The main limit to the development of HPC applications to image processing/computer vision has been the lack of an acknowledged market. With the development of emerging technologies such as GPU and multicore CPUs, this is rapidly changing and we expect an exponential increase in computer vision applications using HPC. In fact, the ability of developing effective computer vision methods that also provide scalable and efficient processing solutions is becoming more and more an attractive and innovative R&D area for its potential applicability in several scientific, technological and industrial sectors. The goal of this special session is to bring together practitioners and researchers both in computer vision and in HPC and in multimedia research to share ideas and experiences in designing and implementing HPC solutions for improving efficiency of computer vision applications, thus promoting interdisciplinary research between computer vision, HPC and multimedia research. The list of possible topics includes, but is not limited to, the application of High-Performance Computing, Parallel and Distributed Systems, Multicore programming Hybrid Parallel Programming with GPUs and Accelerators, Cluster, Cloud, and Grid Computing in the following fields of computer vision:

– Image Formation, Image Enhancement and Restoration
– Image and Video Analysis
– Image and Video Understanding
– Motion, Tracking and Stereo Vision

Concetto Spampinato
Department of Electrical, Electronics and Computer Engineering University of Catania, Viale Andrea Doria, 6 - 95125 - Catania, Italy

cspampin@dieei.unict.it

Tommaso Mazza
Bioinformatics unit – Casa Sollievo della Sofferenza – Mendel Viale Regina Margherita, 261 - 00198 Roma, Italy

t.mazza@css- mendel.it

Marco Aldinucci
Department of Computer Science, University of Torino Corso Svizzera 185, 10149 Torino – Italy

aldinuc@di.unito.it

For further information, the contact secretariat is at: iptta@ibisc.univ-evry.fr