SCIP Working Group

A proposal to bring together researchers in the area of
Soft Computing in Image Processing

Since time immemorial, vision in general and image in particular have played an important and essential role in human life. Nowadays, the field of image processing has numerous applications, which all result from the interaction between fundamental scientific research on the one hand and the development of new technology on the other hand. Regarding the scientific component, the scientific community quite recently became familiar with "soft computing techniques" in image processing. Soft Computing covers several new techniques, such as fuzzy set theory, rough set theory, neural networks and genetic algorithms. In the past years, these techniques have proven their richness and potential in the area of image processing. This can be derived from the increasing number of publications, a number of patents, and the fact that "image processing" is mentioned explicitly as a topic in most fuzzy-related international conferences.

However, it is our opinion that it would be in the interest of the field itself if researchers that are active in this exciting area of soft computing in image processing would cooperate more closely. This can be achieved on an individual basis, but a formal "working group" certainly would increase and/or intensify these efforts.

Let us illustrate this with a concrete example. Several research groups are studying fuzzy logic based filters for noise reduction in images. New filters are being developed, and comparative studies are being performed in order to get insight in the structure and performance of all these different filters. However, we notice that a lot of this research is done independently from one another. A combined effort, in which all fuzzy filters are studied simultaneously and in which the same standard pictures are used, would lead to a more complete and more valuable research report.

The combined observation of increasing interest in soft computing in image processing and the need for organized international cooperation, has lead us to the formulation of the present proposal for a SCIP Working Group. We sincerely hope that you will read it with great care and interest, and that you will consider your participation in this project! Or as we could say: *SCIP … don't skip it !*

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1. Goal of SCIP

The goal of the SCIP Working Group is to establish, to intensify and to stimulate international cooperation between researchers that are active in the area of soft computing in image processing. This goal can be achieved by a variety of activities, all aimed at bringing together researchers and at exchanging knowledge and ideas.

2. Activities of the SCIP working group

Communication

Communication is one of the key points of a good working research group. We are currently organizing:

- The SCIP newsletters. The newsletter is used to spread initiatives for cooperation, calls for papers, announcements of recent publications, questions, …. It appears on a regular basis and is emailed to all SCIP members. Occasionally, the SCIP Newsletters are sent to a larger group of people in the form of SCIP Express Messages or SCIP Newsflashes.

- The SCIP website. The website contains a members list with detailed contact and research information, a list of interesting conferences, and a list of the members' publications. Above all, it contains updated information on all the SCIP activities, in particular organized sessions at international conferences and initiatives for international publications. Also the SCIP Newsletters can be consulted through the website. It is a very interesting source of information to search for international contacts. The SCIP-website is available at http://www.fuzzy.ugent.be/SCIP.

Meetings

In order to be a useful initiative, members of the SCIP working group should meet regularly to exchange idea and to discuss research results. Therefore, we regularly organize special sessions on "Soft Computing in Image Processing" at international conferences. The idea is that members of SCIP give priority to the conferences where such sessions are organized to submit their papers. The locations of these sessions is spread geographically.

The SCIP Working Group has already organized several sessions at international conferences. We refer to the SCIP website for an overview of past and current activities.

Joint research

One of the main goals of SCIP is to create an international forum for joint research. An organized structure should make it easier to encourage and intensify international cooperation. This cooperation can be achieved in several ways :
- Joint papers: Through SCIP, a large database of researchers and their interests are made available. If two or more researchers are working on the same topic, the SCIP Working Group could be a starting point for a fruitful cooperation.
- Joint editing of books and special journal issues: The editing of books or journals by SCIP members can result from organized SCIP sessions. It can also result from the initiative of individual members who can use the SCIP communication channels. Currently, we have 3 edited books and 2 special journal issues.
- Short visits to different laboratories and research groups of the SCIP members probably are the best way to achieve intense cooperation.

3. Practical aspects

Joining the group

First of all, we need to know whether you are interested in the idea of the SCIP Working Group, and whether you would like to participate in it. In June 2007, already 160 researchers from 40 countries joined SCIP!

<u>If you wish to become a member of the Working Group, download the Membership Form and send it back to us</u>. You can fax it, email it, or send it by regular mail (see the first page for contact details).

Note that membership of the SCIP Working Group is completely free of charge. The only thing required is that you support the goals of the Working Group as outlined before.

Taking part in the activities of SCIP

After the group has been established in November 2002, active actions to establish and intensify international communication and cooperation have been taken. A regular updated SCIP website, regular spread SCIP Newsletters, and the organization of sessions at international conferences undoubtedly have contributed to the growth of the SCIP Working Group. Currently, several international publications in the framework of the SCIP Working Group are undertaken as well.