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Minutes from the
Annual General Meeting 2004
of the
Cellular Neural Network and Array Computing Technical Committee

Monday, May 24 2004, 7:30pm
Burrard Room, Sheraton Wall Centre Hotel, Vancouver, BC, Cancada

Attendance:

Paolo Arena, Sabri Arik, Victor M. Brea, Ricardo Carmona, Pier Paolo Civalleri, Marco Gilli, Mika Laiho, Chin-Teng Lin, Yoshifumi Nishio, Csaba Rekeczky, Alessandro Rizzo, Tamás Roska, Vedat Tavsanoglu, Ronald Tetzlaff, Joos Vandewalle,

Matters arising from minutes of 2003 AGM at ECCTD 2003

The minutes of the 2003 AGM were endorsed unanimously by the committee.

Review of Technical Activities

Bert Shi reviewed the technical activities of the committee over 2003:

ECCTD 2003 held in Krakow Poland included a plenary lecture by T. Roska and A. Zarandy on CNN Technology, 10 sessions on CNNAC related topics, as well as a demo session on CNN technology. The Annual General Meeting of the Technical Committee was also held there.

The TC provided technical sponsorship for the 2004 RISP International Workshop on Nonlinear Circuits and Signal Processing (NCSP'04) which was held at the Waikiki Beach Marriott Resort, Honolulu, Hawaii, USA between Mar. 5-7, 2004. Y. Nishio gave a brief report from that conference with 120 accepted papers and 2 sessions on CNN.

At ISCAS 2004, there were three invited sessions entitled "Silicon implementations of CNN and programmable mixed-signal vision" (I and II) and "Bionics and theory of CNN." This year, there were 47 submissions to the track, a substantial increase from the 10 submissions in 2003, when the CNNAC track was listed as a sub-track under a combined CNNAC/Neural Networks track. Out of all submissions, 30 papers were accepted (64% acceptance rate.) These were organized into 4 lecture sessions and 2 poster sessions.

For ISCAS 2004, the sub-tracks of the CNNAC track were:
    4.0: Cellular Neural Networks and Array Computing
    4.1: Theory of cellular nonlinear spatio-temporal phenomena
    4.2: Analog-logic spatio-temporal algorithms
    4.3: Learning and design
    4.4: Implementations of topographic microprocessors
    4.5: Bio-inspired/neuromorphic arrays
    4.6: Integrated sensor/processor/actuator arrays
    4.7: Spatio-temporal models of biological information processing
    4.8: Applications
    4.9: Other areas in Cellular Neural Networks and Array Computing

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Given the importance of clear sub-track listings in attracting quality papers to the track, Bert Shi asked committee members for the feedback for any changes in the sub-track titles for 2005.

The IEEE Transactions on Circuits and Systems-I published a special issue on "CNN Technology and Active Wave Computing" in May 2004. There were 34 papers submitted to the special issue, of which 15 were accepted for publication in the special issue. The issue was divided into three sections, entitled "Single-layer Arrays", "Multi-layer Arrays", and "Emerging Technologies."

The International Journal of Circuits Systems and Computers published a special issue (Vol. 12, No. 6) in December 2003 entitled "CNN TECHNOLOGY AND VISUAL MICROPROCESSORS, PART 2" edited by Marco Gilli, Tamás Roska, and Ákos Zarándy.

The International Journal of Neural Systems published a special issue (Vol. 13, No. 6) in December 2003 entitled "NONLINEAR INFORMATION PROCESSING AND INTELLIGENT SENSORS" edited by Ronald Tetzlaff.

Upcoming Conferences

CNNA 2004

The next CNNAC related conference will be the IEEE International Workshop on Cellular Neural Networks and Their Applications (CNNA) which will be held before IJCNN in Budapest Hungary in July. Approximately 75 submitted papers will be included in the program. The preliminary program is posted on the conference website. Bert Shi reminded members to register soon to take advantage of early registration discounts.

CNNA 2005

The 9th CNNA has the conference theme "Brain-Like Sensory Computing for Consumer Electronics" and will be held during May 28-30, 2005 at the Lakeshore Hotel in Hsinchu (Taiwan) after the ISCAS 2005 in Kobe. Chin-Teng Lin informed the TC members who are kindly invited to propose special sessions until September 15, 2004.

CNNA 2006

Vedat Tavsanoglu proposed to start the 10th CNNA to be held in Istanbul in the beginning of September because many CNN contributions which will be presented at ISCAS leading to the risk that submissions to CNNA might only be minor updates of ISCAS papers. The committee endorsed this proposal.

New initiative in "Advances in Circuits and Systems"

This initiative of Martin Hasler (L'Ecole Polytechnique Fédérale de Lausanne, Switzerland) will lead to a quarterly, in the IEEE Circuit and Systems Society distributed newsletter giving developments of general interests. A committee for handling TC contributions in the field of theory (Ronald Tetzlaff), applications (Csaba Rekeczky), and implementations (Ricardo Carmona) of CNN was nominated. The TC members are invited to submit a paper with a 10 word title and a 30 word description until end of June 2004. All collected contributions will be forwarded by the TC chair to Martin Hasler.

Special sessions and tutorial proposals

Bert Shi informed the committee that he had been invited to organize a special session on CNN Technology at the International Conference on Intelligent Sensors, Sensor Networks and Information Processing ISSNIP - 2004 (www.issnip.org) to be held in Melbourne, Australia during 14-17 December 2004. The topics of interest at this conference include: Intelligent and Bio-Sensors, Sensor Networks, Intelligent Information Processing, Sensor Network Applications for: Defense, Healthcare and the Environment, Unmanned Aerial Vehicles, Signal Processing for Sensor Networks, Sensors for Control, Optimization, Biosensing and Biomimetics, and Bio-inspired Models for Signal Processing. He invited TC members interested in submitting papers to this session to contact him by email after the meeting, and would send a reminder follow up email after the meeting.

The new chair-elect will be responsible for organizing the special sessions endorsed by the TC at ISCAS 2005. At the meeting, we identified four possible topics including: Unmanned Intelligent Vehicles (Csaba Rekeczky), Silicon Implementations (R. Carmona/G. Linan), Bionics and Biomedical Applications (Ronald Tetzlaff), and Theory (Sabri Arik and Vedat Tavsanoglu). It was proposed that the first two be jointly organized by the CNNAC TC and the Sensory Systems TC. After the meeting, Bert Shi met with Orly Yadid Pecht, the chair of the Sensory Systems TC, and obtained her agreement to jointly organize these sessions. Each jointly organized session would have one chair from the CNNAC TC and one chair from the Sensory Systems TC.

Csaba Rekeczky informed the committee that he and Akos Zarandy would be organizing a tutorial on CNN Technology at IJCNN in Budapest. He asked members for a I page power point slide describing their work for possible inclusion in the presentation.

It was proposed that a similar tutorial be proposed for at ISCAS 2005.

Support of University courses and Start up Companies

Tamás Roska informed the committee that he and Leon Chua give CNN courses in the Department of Computer Science and Electrical Engineering (UC Berkeley) and in the Department of Information Technology (Péter Pázmány University, Budapest). The following discussion clarified firstly that CNN courses will be given by different TC member, and secondly that the committee endorse the implementation of a web page to collect material for University courses and tutorials. This webpage shall be linked to the website of the committee.

Website

Bert Shi reported that the website needed to be updated. Tamas Roska proposed that the secretary be the official web master in charge of the committee web pages. It was proposed that the bylaws be amended to include a listing of this responsibility. The committee agreed to consider such an amendment at its next annual meeting at ISCAS 2005.

Election of new members

The committee members endorsed the election of V. M. Brea, Ricardo Carmona and Hyongsuk Kim as new TC committee members.

Election of new officers

Tamas Roska nominated Ronald Tetzlaff as the new Chair-elect and Marco Gilli as the new Secretary. The committee elected these members to the new officer positions unanimously.

Call for awards and DLP nominations

Bert Shi reminded the committee that part of its responsibility is to nominate distinguished lecturers for the CAS DLP program and to ensure that top papers in the area of CNNAC are brought to the attention of the CAS awards committees. Bert Shi asked members to submit nominations for distinguished lecturers and possible award papers to him by the end of November. He would issue a reminder to the TC via email.

Announcements of recent technical developments

Tamás Roska informed the committee that Ákos Zarándy has studied the performance of the recently realized ACE 16K CNN-UM chip and found an enormous computing capacity. A stand-alone image processing system based on this realization, called the Bi-i, was developed and was awarded the Vision Product of the Year 2003, Stuttgart, Germany. It is a bio-inspired intelligent camera and can capture and process over 10,000 128 ×128-pixel images per second.

AOB

There was no further business, the meeting was adjourned.