

Report on the 2013 Affective Computing and Intelligent Interaction Conference (ACII 2013)

Thierry Pun, Anton Nijholt

■ *The 2013 Affective Computing and Intelligent Interaction Conference (ACII 2013) was held in Geneva, Switzerland, September 2–5, 2013. This report summarizes the major events of the conference.*

After Beijing in 2005, Lisboa in 2007, Amsterdam in 2009, and Memphis in 2011, more than 200 researchers converged to Geneva, Switzerland, on September 2–5, 2013, for the fifth biannual Affective Computing and Intelligent Interaction conference (ACII 2013). Under the auspices of the Humaine Association (now called the Association for the Advancement of Affective Computing, AAAC), the ACII conference series has become an important international forum for research on affective human-machine interaction and intelligent affective systems.

Affect is a phenomenon of substantial importance in most if not all of human activities. This ACII conference therefore strived to emphasize the humanistic side of affective computing by promoting research at the crossroads between engineering and human sciences, including biological, social, and cultural aspects of human life. This has been exemplified by conference topics as varied as computerized psychological emotional modeling; art and cinema studies; gaming; learning; depression, stress, and anxiety management; robots, avatars, and virtual worlds; social media analysis; pattern recognition, classification, and data mining; real-time and embedded affective systems; and others. All have in common affect and emotions, with an emphasis on a computational view of emotion.

A record high 268 submissions were received for the conference: 175 regular papers and 93 papers for the workshops,

the doctoral consortium, and the demonstrations. Almost all the submissions were of full length. Each paper was reviewed by at least two experts (most papers received three reviews) and vetted by members of the Senior Program Committee. On the basis of metareviews, 55 out of the 175 regular papers were accepted as oral presentations (31 percent acceptance rate), and an additional 48 papers were accepted for poster presentations (an overall acceptance rate of 59 percent). Similar acceptance rates were reached for the workshops and satellite events. A number of papers were from industry, major ones as well as startups. These figures as well as the participation rate clearly establish the prominent role of ACII in the field. As participants, as well as some outsiders, observed, the whole conference gave an impression of liveliness, dynamism, perhaps even gaiety.

The conference was structured as 3 invited keynote talks, 12 regular sessions (oral), 2 poster sessions, a doctoral consortium (2 oral sessions and posters), a live demonstration session, and an artistic event. If one asks what are the hot technical topics currently addressed by the community, the answer would of course depend on who would reply. The three keynote talks however give a good snapshot of these. Klaus Scherer (University of Geneva) spoke about modeling emotion as dynamically unfolding component processes. He emphasized the importance of computational and dynamic modeling of the different emotion components in the course of a given affective episode. Christine Lisetti (Florida International University) discussed affective computing and well-being. She focused on the creation of humanistic affective computing systems that promote healthy lifestyles and well-being, with the need to provide users of such systems with the right intrinsic motivation to use them. Georgios Yannakakis (University of Malta, and IT University of Copenhagen) talked about computer games: challenging, advancing, and realizing affective interaction. He argued that computer games — be they serious or not — are the right platforms to elicit, model, and study complex cognitive,

affective, and behavioral responses, thereby advancing research on human-computer interaction at large.

As a special feature of ACII 2013, an hour-long artistic event, called Mood Conductor, was performed by the VoXP band (France), during which the audience had the opportunity to conduct the performers by communicating emotional intentions to them through a smartphone-friendly application. Another original event was the live recording and public display of physiological signals from the main presenters and participants of the conference opening as a way to exemplify the importance of real-time measurements and biofeedback in affective computing.

The conference was preceded by a full day of five workshops: Affective Interaction in Natural Environments, organized by Ginevra Castellano, Kostas Karpouzis, Jean-Claude Martin, Louis-Philippe Morency, Christopher Peters, and Laurel Riek; Context Based Affect Recognition, organized by Zakia Hammal and Merlin Teodosia Suarez; Mediated Touch and Affect, organized by Gijs Huisman, Nadia Bianchi-Berthouze, and Dirk Heylen; Affective Brain-Computer Interfaces, organized by Brendan Allison, Guillaume Chanel, Christian Muehl, and Anton Nijholt; and Festschrift for Roddy Cowie and Ellen Douglas-Cowie, organized by Dorothy Cowie and Catherine Pelachaud.

Three awards were presented during the conference: the Outstanding Paper Award, presented to Harry J. Griffin, Min S. H. Aung, Bernardino Romera-Paredes, Gary McKeown, William Curran, Ciaran McLoughlin, and Nadia Bianchi-Berthouze, for Laughter Type Recognition from Whole Body Motion; the Technicolor Outstanding Student Paper award, presented to Jérôme Urbain, Hüseyin Cakmak, and Thierry Dutoit, for Automatic Phonetic Transcription of Laughter and its Application to Laughter Synthesis; and the Fiorella de Rosis Award for an Outstanding Doctoral Consortium Paper, presented to Jyoti Joshi, for An Automated Framework for Depression Analysis.

ACII 2013 was organized by the Computer Vision and Multimedia Lab-

oratory and the Swiss Center for Affective Sciences of the University of Geneva, Switzerland. The conference was technically cosponsored by the IEEE Computer Society and by AAAI — the American Association for Artificial Intelligence. Electronic proceedings were distributed to the participants on a USB stick, and all papers will be available on IEEE Xplore. Two special journal issues of selected works presented at ACII are planned, in the *IEEE Transactions on Affective Computing* (editor-in-chief, Jonathan Gratch) and in the *Springer Journal on Multimodal User Interfaces* (editor-in-chief, Jean-Claude Martin).

The general chairs of the conference were Thierry Pun, Catherine Pelachaud, and Nicu Sebe. the program chairs were Anton Nijholt, Sidney D'Mello, and Maja Pantic.

Thierry Pun is a full professor in the Computer Science Department and group leader of the Computer Vision and Multimedia Laboratory at the University of Geneva, Geneva, Switzerland. He earned his Ph.D. at the Swiss Federal Institute of Technology in Lausanne, Switzerland, was a visiting fellow at the National Institutes of Health in Bethesda, Maryland, a research fellow at the CERN European Laboratory for Particle Physics, and was as assistant (1986), associate (1989), and now full professor (from 1998) at the University of Geneva. His current research interests are in affective computing and multimodal interaction, such as physiological and behavioral signals analysis for emotion assessment, affective gaming and learning, affect in social media, brain-computer interaction, multimodal interfaces for blind users and for the elderly.

Anton Nijholt started his professional life as a programmer at TNO-Delft. He studied civil engineering, mathematics, and computer science at Delft University of Technology and completed his Ph.D. in theoretical computer science at the Vrije Universiteit in Amsterdam. He held positions at the University of Twente, the University of Nijmegen, McMaster University (Canada), the Vrije Universiteit Brussels (Belgium), and at NIAS in Wassenaar. For some years he was scientific advisor of Philips Research Europe. Presently he is a member of the Human Media Interaction group of the University of Twente. His main research interests are multiparty interaction, multimodal interaction, brain-computer interfacing, and entertainment computing.