Emotion-based interaction

Olga Sourina · Ling Li · Zhigeng Pan

Emotions accompany everyone in daily life. They play a key role in non-verbal communication, and are essential to the understanding of human behavior. Emotion recognition can be gleaned from text, speech, facial expressions, gestures or from bio-signals including EEG. The need and importance of automatic emotion recognition have grown with the development of new forms of human-centric and human-driven interactions with digital media. User emotions can be recognized and visualized in real time in many forms, for example, on his/her avatar adding the so-called "emotion dimension" to human-computer interfaces. New forms of human-centric and human-driven interactions with digital media lead us to the creation of multimodal interfaces that can be integrated into applications such as serious games, neurofeedback games, experimental art animation, communication between avatars and with virtual objects, or even social robots working with elderly people. They have the potential to revolutionize entertainment, learning, and many other areas of human life. Research on emotion-based interaction and its applications needs scientists and engineers from many disciplines such as psychology, cognitive neuroscience, neurophysiology, biomedical engineering, rehabilitation, signal processing, computer vision, pattern recognition, computer graphics, and virtual reality. Besides, artists and designers are required as well for many emotion-enabled applications.

This special issue on Emotion-based Interaction aims to provide an opportunity for researchers from diverse backgrounds to present their works on emotion-enabled interactions and to share new ideas on integrating the emotional dimension into human-computer interfaces. The contributors of this issue include scientists, engineers, psychologists, educators, artists, etc. working on projects closely related to emotion-based interaction. Considering the diverse background of the contributors we expect that this issue would be attractive to the JMUI readers who are interested in different aspects of this interdisciplinary topic. The editorial team would like to thank Jean-Claude MARTIN, Editor in Chief of JMUI who helped us in preparing this issue.

O. Sourina (✉)
Nanyang Technological University, Singapore, Singapore
e-mail: eosourina@ntu.edu.sg

L. Li
Curtin University, Perth, Australia
e-mail: L.Li@curtin.edu.au

Z. Pan
Zhejiang University, Hangzhou, China
e-mail: zhigengpan@gmail.com