Editorial

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1 Message from Shuzhi Sam Ge

Four years after the launch of the International Journal of Social Robotics, Maja J Matarić (USC) has retired as Co Editor-in-Chief (EiC) at the end of 2012. I would like to take this opportunity to express my deepest heartfelt thanks to Maja for her dedication and support throughout the early stages of the journey of our journal. Thank you, Maja, for your outstanding service to our community!

It is my great pleasure to announce that starting from January 2013, Oussama Khatib (Stanford University) will serve as the Co Editor-in-Chief of the Journal. On behalf of all us, I would like to extend a warm welcome to Oussama, who played an instrumental role as a founding member of the international advisory board. I am honored and privileged to work with him. Thank you Oussama for your willingness to serve!

Social Robotics provides engineering with human warmth, brings sciences closer to senses, and connects humans with engineering, science and technology.

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2 Journal Update

Because of the large number of submissions to our journal, which offers a clear illustration of the growing importance of our field, the page budget per issue has been increased from 100 to 150 pages starting from the year 2013 to enable speedy publications on the scientific findings and research of our colleagues.

The editorial board continues to be devoted to managing the journal smoothly and in the highly professional and timely manner the community has come to rely on, which can be summarized as being fully committed to maintaining a standard of high scientific impact, a speedy review process and timely publication.

3 Flagship Conference

We successfully organized our 4th International Conference on Social Robotics (ICSR) in the beautiful city of Chengdu, China, held October 29–31, 2012. With “Wellness” as its theme, the conference focused on the interaction between humans and robots, and on the integration of robots into our society.

At our flagship conference on social robotics, we invited four distinguished leaders in the field as plenary speakers to present their works, and to share with us their contributions and their visions.

Cynthia Breazeal from the Massachusetts Institute of Technology (MIT) delivered a plenary talk on “Imagination, Play and Learning with Robots”. She addressed a range of fundamental issues in the ongoing research and development in social robotics.

Etienne Burdet from Imperial College London presented his most recent research and theoretical work on “Interactive

Motor Behaviors”. His presentation touched on important aspects of social robotics that address meaningful interaction and communication between robots and humans.

Paolo Dario from the Scuola Superiore Sant’Anna (SSSA) in Pisa presented his ideas and vision on the “Robot Companion for Citizens,” and charted the scientific road map of our social robotics in the future.

Hong Zhou from the China Armed Forces shared with us his research and development on “Coupling Technology for Strength-Enlargement,” and discussed the ongoing effort in robotic and control technologies.

The conference recognized a number of contributions during the award ceremony. We would like to congratulate the winners of the Best Paper Award, Best Student Paper Award, and Best Interactive Presentation Award for the significance of their scientific work, the novelty of their approach, and the clarity of their presentations.

As the social robotics community continues to grow, we embrace newly emerging and relevant research themes to ensure that the journal not only stays relevant to recent developments in the field, but equally plays a leading role in social robotics.

We look forward to seeing you at ICSR 2013, in Bristol, UK, under the leadership of Guido Herrmann and his conference organizing committee.

4 Overview of the Papers in this Issue

The first paper is on “Effect of Robot’s Whispering Behavior on People’s Motivation” by Kayako Nakagawa, Masahiro Shiomi, Kazuhiko Shinozawa, Reo Matsumura, Hiroshi Ishiguro and Norihiro Hagita. The authors investigated the effect of a robot’s whispering behavior consisting of a whispering cue and a small voice on people’s motivation. The paper showed that the whispering cue improved task performance as measured by the number of written equations and writing time.

The second paper, “An Experimental Study on Emotional Reactions Towards a Robot”, is presented by Astrid M. Rosenthal-von der Pütten, Nicole C. Krämer, Laura Hoffmann and Sabrina Sobieraj, Sabrina C. Eimler. The authors conducted a study that provides insights into the question of whether humans show emotional reactions towards a robot dinosaur. The authors inferred from the results that “type of video” was significant to participants’ emotional reactions while the acquaintance with the robot did not play a role.

The third paper by Ali-Akbar Samadani, Eric Kubica, Rob Gorbet and Dana Kulić is on the “Perception and Generation of Affective Hand Movements”. The authors developed a computational model for recognizing and generating affective hand movements for display on anthropomorphic

and non-anthropomorphic structures. It is shown in the paper that no significant difference is observed between participants’ evaluation of the regenerated movements as compared to the original movement, which confirms successful regeneration of the affective movement.

The fourth paper, “Learning Macro Actions from Instructional Videos Through Integration of Multiple Modalities” authored by David O. Johnson and Arvin Agah proposed an architecture for a system that will “watch and listen to” an instructional video of a human performing a task and translate the audio and video information into a task for a robot to perform. They contributed to the integration of multiple modalities, task decomposition into macro-tasks and context for determining missing and implied task-primitive parameter values.

The fifth paper is entitled “Effects of Experience and Workplace Culture in Human-Robot Team Interaction in Robotic Surgery: A Case Study” by S. Cunningham, A. Chellali, I. Jaffre, J. Classe and C.G.L. Cao. The authors presented a methodology for examining human-robot team interaction in a complex environment, along with the results of its application in a study on the effects of experience and workplace culture, for human-robot team interaction in the operating room. Both verbal and non-verbal events in robotic surgery were analyzed in two different surgical teams.

The sixth paper by Annica Kristoffersson, Kerstin Severinson Eklundh and Amy Loutfi is on “Measuring the Quality of Interaction in Mobile Robotic Telepresence: A Pilot’s Perspective”. The authors demonstrated the use of several tools in evaluating the quality of interaction in social mobile robotic telepresence. These methods include, on one hand, a questionnaire that assesses the perceived presence and ease of use, and on the other hand, theories about spatial formations and how these influence the quality of the interaction. It is shown that these tools are suitable for evaluating mobile robotic telepresence and also that correlations between the tools used exist.

The seventh paper authored by Hamid Abdi, Saeid Nahavandi, Zoran Najdovski and Anthony A. Maciejewski addresses the fault tolerance of robotic manipulators for cooperatively manipulating an object together with a human on their work “Fault-Tolerant Force in Human and Robot Cooperation”. Reconfiguration of the manipulator was performed to maintain the cooperative force level despite of the occurrence of robot joint failures. Several strategies were investigated for optimally maintaining the required force level for human-robot task cooperation.

In the eighth paper, Manabu Gouko and Yuichi Kobayashi present “A State Representation Model for Robots Unaffected by Environmental Changes” using sensor data. They represented sensor signals as probability distributions and the distances between such distributions express a state. Experimental results in the paper confirmed that the proposed

representation correctly recognizes similar states using a converted sensor signal.

The ninth paper, “Socially Responsible Engineering Education Through Assistive Robotics Projects: The RoboWaiter Competition” is presented by David J. Ahlgren and Igor M. Verner. The authors proposed an approach to promote students’ social awareness as part of challenging projects in robot design. A new robot contest was developed to motivate and focus these projects: RoboWaiter. Assignments, execution of the contest and responses of the contest participants, both engineering students and people with disabilities, were presented in their work.

In the last paper, the work on “Evaluating the Effect of Saliency Detection and Attention Manipulation in Human-Robot Interaction” Guido Schillaci, Saša Bodižić, Verena and Vanessa Hafner created a saliency based attentional model combined with a robot ego-sphere and implemented it on a humanoid robot. Two techniques, user experience as measured by qualitative and quantitative questions in questionnaires and proxemics estimated from recorded videos of the interactions, were adopted to evaluate saliency detection

and attention manipulation mechanisms in human-robot interaction.

5 Gratitude

As colleagues and friends, we are indebted to our outgoing Co EiC, Maja J Matarić (USA), for all the time and effort she has given to the journal. Her dedication, whole-hearted support, and companionship during the four year journey of the journal have been vital to our success. We thank Maja for her contributions to the field and for her service to the community.

The journal could not have become what it is today without the devotion of the members of the International Advisory Board, the dedication of the members of the editorial board, and the diligent work of the reviewers. The greatest debt of gratitude and thanks is owed, of course, to the authors for their technical contributions to the journal and to the field of social robotics.