Responsible Roboticists

By Yi Guo

With summer upon us, for many of us working in academia, this is the most convenient time to travel and to attend conferences. I packaged my luggage and headed to the IEEE International Conference on Robotics and Automation (ICRA) in London, U.K. It was a rewarding trip—not only did the largest ever international robotics conference inspire me with research ideas, but also the rich history of the country fascinated me as a first-time London visitor.

The field is expanding. ICRA London had more than 6,000 participants over the five conference days, which raised a lot of challenges for conference organizers, from choosing paper presentation modes to organizing social events. Regular Society events, such as the IEEE Robotics and Automation Society (RAS) Town Hall, Women in Engineering Luncheon, and RAS Lunch With Leaders, were held, and all were well attended. RAS technical committees (TCs) are more active than ever before, with the TC Cluster Forum running each of the three conference days. Innovative programs, such as the hybrid format with live streaming and satellite conference centers in other countries, served online attendees well. It is in the minds of Society leaders and future conference organizers to adapt to the new reality of the expanding field and to organize robotics conferences that accommodate various needs to serve the community better.

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There were many highlights of the conference program. For me, it was exciting to watch on the stage of ICRA, two Spot robots dancing the tango, the Avator of Hiroshi Ishiguro presenting on behalf of its human owner using human-like gestures, and the humanoid robot Sofia interacting with humans naturally. There is strong evidence that roboticists are making encouraging progress in both hardware and software. As Marc Raibert from the Boston Dynamics AI Institute stated in his plenary talk at ICRA, hardware is as important as software, and the goal is to achieve both "athletic intelligence" (i.e., to advance robots' physical skills) and "cognitive intelligence" (i.e., to make robots smarter).

People asked many questions, big and small. One big question that was asked during ICRA is how to make better robots for society. During the keynote session, "Robots for Society," one of the panelists, Lynne Parker from the University of Tennessee, proposed responsible social robotics to help gain public acceptance. She reminded us that "ethics topics at AI conferences were largely ignored until about five years ago," and argued that we can take a different path and build trust for acceptance and societal adoption before widespread technology adoption is achieved. She noted that this should be done, "if not for the ethics of it, then simply because we want our work to have an impact in the field." In Parker's talk, she gave examples of social robotics research that find promising applications in elder care, education, autism therapy, rehabilitation, and mental health support. She suggested that, in addition to answering how this can be done, we should also address the implications of technology and respond to questions including the following: Should it be done? What might go wrong? How can we ensure that bad things don't happen? We have a long way to go, and being responsible should be given adequate attention when we bring robots into the human world.

At ICRA, the eighth *IEEE Robotics and Automation Magazine* Best Paper Award was announced. The award paper is "Testing Gecko-Inspired Adhesives With Astrobee Aboard the International Space Station: Readying the Technology for Space," by Tony G. Chen, Abhishek Cauligi, Srinivasan A. Suresh, Marco Pavone, and Mark R. Cutkosky [1], which was published in the September 2022 issue. We congratulate the authors on this achievement. The article is made open access on IEEE *Xplore*.

This September issue is a regular issue that contains 10 feature articles presenting a wide range of robotics research. Enjoy reading the issue!

REFERENCE

[1] T. G. Chen, A. Cauligi, S. A. Suresh, M. Pavone, and M. R. Cutkosky, "Testing gecko-inspired adhesives with Astrobee aboard the International Space Station: Readying the technology for space," *IEEE Robot. Autom. Mag.*, vol. 29, no. 3, pp. 24–33, Sep. 2022, doi: 10.1109/MRA.2022.3175597.

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