



## Second IEEE International Conference on Robotic Computing

Co-Located with 12<sup>th</sup> IEEE International Conference on Semantic Computing (ICSC 2018)  
January 31 – February 2, 2018  
Laguna Hills, California  
<http://www.ieee-irc.org>

### CALL FOR PAPERS

The boundaries between Computer Science and Robotics are continuing to be softened. On the one hand computers are continuing to be humanized and a large number of cyber-physical systems are being developed to act upon the physical world. On the other hand the robotic community is designing robots for the 21st century that are versatile computing machines with high social impact potential, able to enhance transportation safety, reduce agricultural pesticide use, and improve public safety and crime-fighting efficacy, among other things. The barriers that restrain their diffusion significantly correlate to the complexity of developing their software control systems, which must be reliable, maintainable, intelligent, and safe.

Robotic Computing (RC) addresses the synergetic interaction of computing technologies and robotic technologies. The synergy between Robotics and Computer Science is both realistic and strategic. Their mutual benefit is to make it possible to build and evolve new robotic systems, to reduce their development cost, and to enhance their quality. The Second IEEE International Conference on Robotic Computing (IRC 2018, aka Robotic Computing 2018) is inviting high quality research papers addressing the synergies between Computer Science and Robotics in all applications:

- Formal methods for analysis and design
- Software architectures
- Middleware infrastructures
- Model-driven engineering
- Component-based engineering
- Software product line engineering
- Data, ontology, and knowledge engineering
- Autonomic computing
- Natural language understanding
- Service oriented computing
- Cloud computing
- Semantic computing
- Multimedia computing
- Internet of Things
- Virtual reality
- Computer security
- Software development
- Software fault tools and analysis
- RAMS abilities of robotic systems
- Hardware modeling and abstraction
- Resource awareness
- Sensor fusion, integration
- Place recognition, localization
- Object recognition, tracking
- Scene interpretation
- Robot cognition
- Manipulation, grasping
- Robot kinematics, dynamics
- Motion planning, control
- Navigation
- Task planning, monitoring
- Human-robot interaction
- Robot simulation
- Multi-robot systems

### SUBMISSIONS

Authors are invited to submit an 8-page (regular), 4-page (short), or 6-page (industry) technical paper manuscript in double-column IEEE format following the guidelines available on the IRC2018 web page. The conference proceedings will be published by IEEE Computer Society Press. Distinguished quality papers presented at the conference will be selected for the best paper/poster awards and for publication in internationally renowned journals.

**Workshop proposals deadline:** September 25, 2017

**(Regular, Short, Demo, Poster, Industry) Paper submission deadline:** October 1, 2017

**Paper acceptance notification:** December 1, 2017

**Workshop submission deadline:** December 15, 2017

**Camera ready and registration deadline:** December 22, 2017