Intelligent Robots and Computer Vision XXVII: Algorithms and Techniques

Conference EI118

Conference Chairs
Juha Röning, Univ. of Oulu (Finland), **David P. Casasent**, Carnegie Mellon Univ.; **Ernest L. Hall**, Univ. of Cincinnati

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On-site Proceedings

Abstract Requirement: Abstract (500 words) and Summary (200 words)

This meeting will focus on new algorithms and techniques for intelligent robots and computer vision with emphasis on algorithms and techniques. With computer vision, the conference is focused on the development of the science of computer imaging, theory, algorithms, paradigms and applications.

This conference emphasizes intelligent robotics, new computer vision and pattern recognition algorithms and applications in robotics and product inspection, modeling of human visual processing, learning for swarms of robots, etc. In 2011, we plan several major sessions on new advances in intelligent mobile robots (systems, navigation, obstacle avoidance, route planning, etc.) with emphasis on results obtained in diverse government and other programs. New sessions are also planned on detection and tracking of people and vehicles in complex environments, product inspection, cognitive learning strategies and systems, autonomous multi-vehicle collaboration and vehicle automation and enhanced safety through driver assisted aids for manned and unmanned vehicles for the military and automotive applications.

Papers are solicited specifically for the following topics:

- intelligent mobile robot methods and advancements (tracking, scene analysis, path planning, obstacles)
- autonomous multi-vehicle collaboration
- robotic aids for the elderly
- cognitive learning strategies and systems (intelligent robots that adapt, learn, and manage complexity)
- people and vehicle recognition and tracking
- computer vision algorithms and applications for intelligent robots
- tracking and scene analysis for intelligent vehicles
- product inspection, testing, and assembly
- intelligent packaging, processing, and material handling
- segmentation for object location and obstacle avoidance for intelligent robots
- pattern recognition and image processing for computer vision and robotics
- active vision and real time techniques
- color image processing
- image understanding and scene analysis
- object modeling and recognition
- 3D vision: modeling, representation, perception, processing, and recognition; predictive 3-D vision
- industrial applications
- novel sensors for intelligent robots.

Intelligent Robots and Computer Vision Best Student Paper Awards

Awards will be given for Best Oral and Poster Paper Presentation for student authors. For award consideration, the student author or co-author must present the paper and verify their student status to the

session chair. Awards will be based on relevance, creativity, theoretical and experimental quality, and presentation effectiveness.