Results from a Virtual Manufacturing Automation Competition

Organizers: Stephen Balakirsky, Chris Scrapper, and Raj Madhavan

A Special Session at the
Performance Metrics for Intelligent Systems Workshop
August 19—21, 2008
http://www.isd.mel.nist.gov/PerMIS_2008/

Call for Papers

PerMIS'08 will be the eighth in the series that started in 2000, targeted at defining measures and methodologies of evaluating performance of intelligent systems. The workshop has proved to be an excellent forum for discussions and partnerships, dissemination of ideas, and future collaborations in an informal setting. Attendees usually include researchers, graduate students, practitioners from industry, academia, and government agencies.

2008 saw the running of the first annual Virtual Manufacturing and Automation (VMAC) competition. This competition strives to bring together the three groups of industry, researchers, and developers to tackle some of today's leading edge research issues including the ability to safely operate in dynamic, unstructured environments and amongst humans. This year's competition focused on enabling automated guided vehicles (AGVs) to accurately follow unstructured paths and perform docking maneuvers in confined spaces.

This special session is dedicated to this competition. An overview of the competition will be provided, along with the scoring metrics that were utilized. Competing teams will report on the algorithms that they implemented, and successes and problems with using the provided infrastructure. In addition, information will be provided on the research challenges that are expected to be explored for the next competition that will take place in March 2008.

Submission Information

Prospective authors are requested to submit a draft paper (max. 8 pages) or an extended abstract (1-2 pages) for review. All submissions must be written in English, starting with a succinct statement of the problem, the results achieved, their significance, and a comparison with previous work. Papers are to be submitted to *robosim@nist.gov* using the specified templates at *www.isd.mel.nist.gov/PerMIS_2008/submission.htm/*.

Important Dates

Submission of extended abstracts/full papers	June 25, 2008
Notification of acceptance	July 11, 2008
Final papers due	July 25, 2008

Speakers
TBD

Related Events
Virtual Manufacturing and Automation National Competition
(Organizers: Stephen Balakirsky, Raj Madhavan, and Chris Scrapper)
Competition to be held at NIST in September 2008. This is the second annual running of this joint NIST/IEEE competition that focuses on real-world Automated Guided Vehicle (AGV) problems in the domain of manufacturing. Researchers from multi-agent cooperation, robotic mapping, sensory processing, and communications networks backgrounds are particularly encouraged to participate. Additional information may be found at *http://vmac.hood.edu*.

Quantitative Assessment of Robot-Generated Maps
(Organizers: Chris Scrapper, Raj Madhavan, and Stephen Balakirsky)
This special session at the 2008 Performance Metrics for Intelligent Systems Workshop is dedicated to the development of objective evaluation methods for robot-generated maps in an effort to quantify navigation solutions for mobile robots.

Location
Washington, D.C. (The workshop will be held at NIST, Gaithersburg MD 20899)

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