

2008 IEEE/RSJ International Conference on Intelligent
Robots and Systems Full-day Workshop (Sept. 26th 2008)
**Performance Evaluation and Benchmarking
for Intelligent Robots and Systems**
Organizers: Angel P. del Pobil, Raj Madhavan, and Fabio Bonsignorio

CALL FOR PARTICIPATION

It is a well-known fact that current robotics research makes it difficult not only to compare results of different approaches, but also to assess the quality of individual work. Some steps have been taken to address this problem by studying the ways in which research results in robotics can be assessed and compared. In this context, the European Robotics Research Network EURON has as one of its major goals the definition and promotion of benchmarks for robotics research. The Performance Metrics for Intelligent Systems (PerMIS) Workshop series has been dealing with similar issues in the context of intelligent systems. A related issue, if not a prerequisite, is the capability of replicating research results. The EURON Good Experimental Methodology and Benchmarking Special Interest Group aims to gather efforts in replication of results and benchmarking in order to increase the overall experimentation benefit in robotics research. The main purpose of this workshop is to contribute to the progress of performance evaluation and benchmarking, focusing in intelligent robots and systems, by providing a forum for participants to exchange their on-going work and ideas in this regard.

The emphasis of the workshop will be on cognitive solutions to practical problems. These cognitive approaches should enable an "intelligent" system to behave appropriately in real-world scenarios in various application domains. We also propose to discuss the distinction between autonomy and intelligence (if any) and how one influences the other. We welcome any topic relevant to benchmarking and performance evaluation in the context of cognitive solutions to practical problems, such as:

- Knowledge representation, perception (sensing), and learning
- Uncertainty management in robot navigation, path-planning and control
- Cognitive manipulation
- Benchmarking autonomy and robustness to changes in the environment/task
- Capability-led understanding of cognitive robots
- Shared ontologies to discuss robotic cognitive systems in terms of their performance capabilities
- Relationships between different cognitive robotics capabilities
- Requirements, theories, architectures, models and methods that can be applied across multiple engineering and application domains
- Detailing and understanding better the requirements for robots in terms of performance, the approaches to meeting these requirements, the trade-offs in terms of performance
- The development of experimental scenarios to evaluate performance, demonstrate generality, and measure robustness

Workshop Format & Date

The workshop will consist of invited presentations and regular presentations. These will be included in the IROS 2008 Tutorials and Workshops DVD. The full-day workshop is scheduled to be held on September 26th 2008. You can register for the workshop via the IROS'08 website at <http://www.iros2008.org/>.

About the Organizers

The organizers of the workshop have been actively involved in performance evaluation and benchmarking for robotics. The organizers are currently involved in several projects to define methods for measuring cognitive abilities for robots, both at the component and the systems level.

Intended Audience

The primary audience of the proposed workshop is intended to be researchers and practitioners both from academia and industry with an interest in cognitive robotics and how these approaches can be utilized in generating intelligent behaviors amidst uncertainty for robots in the service and commercial sectors. The workshop is also aimed at benchmarking and objectively evaluating performance of such robots. Accordingly, it is envisioned to be useful for anyone who has an interest in quantitative performance evaluation of robots and/or robot algorithms.

Important Dates

- Papers/Ext. Abstracts: July 28th
- Acceptance: August 11th
- Full Papers: September 12th
- Workshop: September 26th

Contact Details

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