

Workshop on Competitions in Artificial Intelligence and Robotics (CAIR), IJCAI, July 12, 2009

- Welcome!
 - Start time 08:30
 - End time 18:00
- *Organizers:*
 - *Malte Helmert, University of Freiburg*
 - *Johan de Kleer, PARC*
 - *Lukas Kuhn, PARC*
 - *Paul E. Rybski, Carnegie Mellon University*

Competitions in AI/Robotics

- Why hold competitions at all?
 - Education/outreach
 - Set the bar high for research
 - Define standard methods for evaluating results
 - Mature the field by establishing a common background
- Challenges of competitions
 - Overcoming the stigma of “toy/contrived” problems
 - Keeping them evergreen
 - Avoid diverting research to only winning the competition
 - How to define/promote research that comes from competitions?
 - Keep challenges realistic instead of measurable
 - Balancing doing good research AND being competitive

Purpose of this Workshop

- Bring together people from different competitions in AI and robotics
- Discuss the utility of competitions to the various research areas which they support/promote
- Find ways to integrate different competition elements to make them more effective
- Exchange lessons learned

Background of Organizers

- **Malte Helmert -- University of Freiburg**
 - Organization
 - International Planning Competition 2008
 - Participation
 - International Planning Competition 2000, 2004, 2006
- **Johan de Kleer – PARC**
 - Organization
 - Diagnosis Competition 2009
 - Participation
 - Diagnosis Competition 2009
- **Lukas Kuhn – PARC**
 - Organization
 - Diagnosis Competition 2009
- **Paul E. Rybski -- Carnegie Mellon University**
 - Participation
 - AAI Robotics Competition/ Exhibition : 1996-1998,2000-2002
 - RoboCup : 2005-2007
 - DARPA Urban Challenge 2007
 - Organization
 - AAI Robotics Competition/ Exhibition 2005-2006
 - RoboCup@Home 2006-2008
 - Semantic Robot Vision Challenge 2007-2009
 - ICRA Robotics Challenge 2008

Workshop Format

- Accepted papers
 - In-depth discussion about experiences with participation or organization about specific events
 - Meta-discussions about competitions in general
- Invited talks
 - Overview/promotion of specific events or event types
 - Questions:
 - How does your competition format differ from the norm?
 - What works well? What doesn't work?
 - Which problems did you encounter in the past? Did you overcome them? How? What can we learn from you?
- Open forum discussion
 - *Why have competitions?*
 - *How to run a competition?*
 - *Comparing competitions.*

General Questions to Consider

- Why have competitions?
 - What is the utility to each specific field?
 - How can competition keep up with the evolvement of the field?
- What areas benefit more from competition and which benefit less?
 - Questions unique to “software-only” events?
 - Questions unique to “robotic hardware” events?
- What are the commonalities between the different competition areas?
 - What can each community learn from the other?
- *What lessons have YOU learned that could be useful to other people?*