

Cognitive Architectures for Humanoids

Workshop on the Humanoids 2005
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Cognitive Architecture (1)

Cognitive humanoid robots should be able to

- interpret data arising from real-world events and processes
- acquire situated knowledge of their environment
- act
- make or suggest decisions and
- communicate with people on human terms

Cognitive Architecture (2)

- What to model ?
- What kinds of representations ?
 - How representations “emerge”?
 - How representations change ?
- What sort of memory?
- Integration of perception, action, planning and communication

Goal of the workshop

- Cognition for Humanoids
- Requirements for cognitive architectures and tools
- Learning, memorization and decision making
- Perception and action representation
- Understanding of human cognition
- How to create the conditions for testing existing frameworks and using them to design robots with advanced cognitive capabilities

Program

- Yasuo Kuniyoshi
Imitation as an Emergent Embodied Cognition
- Florentin Wörgötter
Temporal Sequence Learning in Neurons and Robots
- David Vernon, Giorgio Metta, and Giulio Sandini
The RobotCub Cognitive Architecture: Foundations, Insights, and Challenges
- Break

Program

- Gordon Cheng
**An Integrative view of Cognitive Architecture:
Process/Structure/Behaviours**
- Christian Goerick
**Researching Elements of Cognitive
Architectures for Humanoids**
- Tamim Asfour, Rüdiger Dillmann
**PACO-PLUS: Cognition through Learning of
Object-Action Complexes**
- **Panel: All Speakers**

Discussion

- Presentations will be available on-line on the workshop homepage
- Papers for a special journal issue