



Cognitive Systems @ the DFKI Language Technology Lab

The German Research Center for Artificial Intelligence (DFKI GmbH) is seeking for its Language Technology Lab a

RESEARCHER

in the area of cognitive systems, for a research position (Post-Doc, possibly junior) in the COSY project ("Cognitive Systems for Cognitive Assistants").

The aim of the COSY project is to investigate principles for cognitive architectures for embodied cognitive agents ("robots"). The investigations have both a theoretical and a practical nature: The project aims to produce a body of theory regarding architectures, representations, types of reasoning, communication and learning relevant to embodied multi-functional intelligent systems, and to develop working systems that demonstrate applications of parts of the theory. For the second period of the project, scenarios focus on object manipulation, and collaborative exploration and problem solving in indoor environments.

DFKI is the main responsible site for the development of modules that enable the cognitive agent to communicate with other agents, possibly through a combination of spoken language, gesture, and body movement. In the context of the project, communication should make it possible for the agent to collaboratively carry out tasks, learn more about the environment, and learn language. The communicative capabilities are inherently part of a larger cognitive architecture in which they are connected with other cognitive processes dealing with e.g. action planning, vision, and motor control. The DFKI team closely interacts with the other project partners to achieve this integration, and has several robots and a robot arm for experimentation.

The responsibilities for the research position include, among others, the following:

- ◆ Development for flexible collaborative dialogue management and dialogue modeling,
- ◆ Integration of dialogue interpretation and production processes with models of the situated context, e.g. spatial organization, causal relations between processes.
- ◆ Theory development in the areas of e.g. spatial language, perceptual and proprioceptual grounding of linguistically communicated meaning.
- ◆ Supervision of research assistants (MSc level).

An ideal candidate will have a background in Artificial Intelligence or Computational Linguistics, and have clearly demonstratable experience with practical development of dialogue systems. The candidate should be an experienced Java and/or C/C++ programmer, and feel confident with using UNIX-based platforms. A broader interest in issues related to cognitive aspects of language comprehension and production, embodied agents and communication, cognitive vision, (probabilistic) robotics, machine learning, and the relation between communication and other cognitive processes such as vision and action planning would be highly welcome. Highly valued personal qualities include creativity, open-mindedness, team spirit, and a willingness to address novel challenges in unknown scientific territory.

Ideally the applicant would have a completed PhD degree.

The earliest starting date of the position is April 2006. The duration of the contract will probably be until the end of the project (August 31, 2008).

For more on the COSY project at DFKI, see <http://www.dfki.de/cosy>.

Please send your electronic application (preferably in PDF format) to lt-jobs@dfki.de not later than March 24, 2004. A meaningful application should include a cover letter, a CV, a brief summary of research interests, a statement of interest in the position offered, and contact information for three references.

For questions concerning this job opening, please contact Dr.ir. Geert-Jan Kruijff <gj@dfki.de>.

