



*Special Track on*

## **Design, Evaluation, and Refinement of Intelligent Systems**

Design, evaluation and refinement of intelligent systems was a popular topic at FLAIRS 2008. More and more authors have realized that the lack of systematic methods and formal techniques for the design, the evaluation, and the refinement are often important reasons for not using AI systems in practice. The first contributions in this field were limited to classical AI approaches such as rule-based systems. Actually, more and more papers regarding nonclassical types of systems (like case-based systems, for example), knowledge processing principles (learning principles, for example), and intelligent behavior (game strategies, for example) are published. Rule-based systems are still a subject of the track, but the focus is widened from their verification and validation towards also covering the design issue. To cover the complete life-cycle of knowledge bases we renamed the track from “Evaluation and Refinement of Intelligent Systems” to “Design, Evaluation and Refinement of Intelligent Systems.”

The objective of the special track is to focus on the contributions in these fields and to provide an environment for communicating different paradigms and approaches; thus, hopefully stimulating future cooperation and synergistic activities. The track hosts any contributions to design, evaluate, and refine intelligent systems. Intended fields of related papers are principles in knowledge systems and ontology design; detecting and handling inconsistencies and other anomalies within knowledge bases; fundamentals and formal methods for verification of AI systems; fundamentals and formal methods and techniques of validity assessment of AI systems, AI principles, and intelligent behavior in general; special approaches to verify or validate certain kinds of AI systems: rule-based, case-based, and others; special approaches or tools to evaluate systems in a particular application field; knowledge base refinement by using the results of evaluation; evaluation issues during system development; development and evaluation of ontologies; maintenance and evolution of knowledge systems and ontologies; methods for the evaluation of distributed knowledge bases; evaluation of semiformal knowledge bases; evaluation of game strategies; design, evaluation and refinement of process models; design, evaluation, and refinement of learning technologies and systems; and problems in system certification.

We received a wide range of related papers and could accept very unique contributions in all main fields. In the design field, we currently see a rebirth of classic rule-based systems, but also new research focuses on knowledge mining. Verification contributions cover inconsistency and uncertainty issues, unit testing of spatial and temporal reasoning, and verification of distributed knowledge. Validation contributions range from measures of empirical testing to test environments for intelligent game strategies.