Preface

Context interpretation and context-based reasoning are key factors in the development of intelligent autonomous systems in a variety of applications. The ability to represent contextual factors, interpret them and combine them with other sources of knowledge are some of the challenges to enable intelligent systems achieve correct behavior. Much work has been done in application areas that make use of contextual information, such as pervasive computing, logic-based sensor fusion and data integration. As well, the theoretical foundations for context-based reasoning have been studied. However, there is still a great deal to do in context modeling, since generic context models for context-aware application development need to be further explored, as does the role of context reasoning with more recently emerging areas such as ontologies, including the semantic web, and approaches to belief change.

Context-dependent data can arise from different sources; for example it may be gathered by sensors or collected from different knowledge- or databases. The incompleteness and heterogenous nature of such data and the need for state-based context interpretation in dynamic systems suggest that nonmonotonic reasoning techniques can be a powerful tool for effective context-dependent reasoning. Given the increasing interest in hybrid knowledge representation formalisms as basis of the Semantic Web, it is interesting to consider proposals that assume hybrid formalisms combining Description Logics and Logic Programming as the basic representation framework for reasoning with (distributed) contexts.

The Log-IC'09 workshop provides a forum for researchers investigating context-aware applications and context-based reasoning with the goal of sharing and comparing their views on the efficacy of different context representation and context interpretation frameworks. Log-IC 2009 will also propose targeted discussions on the topic. Holding the workshop in conjunction with LPNMR 2009 (organized in Potsdam) has the additional advantage of reaching out to the logic programming community, facilitating collaboration between different formalisms for context-based reasoning.

Apart from the regular and short paper presentations, the workshop also welcomes Gerhard Brewka (University of Leipzig, Germany) and Grigoris Antoniou (University of Crete, Greece) as invited speakers. We plan a panel to initiate discussions on dealing with contexts both in theoretical and application-oriented perspectives.

Within these proceedings you can find the five papers that were accepted for publication by our programme committee and the abstract of our invited talk.

The programme committee and organisers wish to thank all the authors who submitted papers, the invited speaker, the panel members, the reviewers, all participants and everyone who contributed to the success of this workshop.

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