Preface

Robots and agents deployed in homes, offices, and other complex domains are faced with the key challenge of representing, learning from, and reasoning with, incomplete and inconsistent domain knowledge acquired from sensors, humans, and other sources. Although many algorithms have been developed for qualitatively or quantitatively representing and reasoning with knowledge and uncertainty, the research community is fragmented, with separate vocabularies that are increasingly making it difficult for these researchers to communicate with each other. This symposium is motivated by the strong belief that the knowledge representation and reasoning challenges in robotics can be addressed by bringing these disparate groups together to share experiences and technical knowledge. We seek to promote a deeper understanding of recent breakthroughs and challenges in the logical reasoning and probabilistic reasoning communities, thus encouraging collaborative efforts towards building knowledge representation and reasoning architectures that support qualitative and quantitative descriptions of knowledge and uncertainty.

– Mohan Sridharan, Symposium Chair