Preface

Trevor Bench-Capon
University of Liverpool

Simon Parsons
Brooklyn College

Henry Prakken
Utrecht University and University of Groningen

Argumentation is a form of reasoning that makes explicit the reasons for the conclusions that are drawn and how conflicts between reasons are resolved. This provides a natural mechanism, for example, to handle inconsistent and uncertain information and to resolve conflicts of opinion between intelligent agents. The advantage of a mechanism based on argumentation is that considering the reasons behind the conclusions offers more than considering the conclusions alone (to adapt something Isaac Bashevis Singer once said, the approach has “more vitamins” than other approaches to reasoning). For example, in dealing with inconsistent information, an early use of argumentation, it is possible to know more than just that we have the inconsistent conclusions $p$ and not $p$. We can establish exactly which pieces of information lead to these conclusions and can then prioritize one conclusion over another on the basis of this information, decide what information should be revised to achieve consistency, or even determine what additional investigation needs to be carried out (when we have reason to believe both that it is raining outside and not raining outside, and have no way of determining which is correct, going to look may be the best solution).

In logical models of commonsense reasoning, the argumentation metaphor has proved to overcome some drawbacks of other formalisms. Many of these have a mathematical nature that is remote from how people actually perceive their everyday commonsense reasoning, which makes it difficult to understand and trust the behavior of an intelligent system. The argumentation approach bridges this gap by providing logical formalisms that are rigid enough to be formally studied and implemented, while at the same time being close enough to informal reasoning to be understood by designers and users.

In dialogical models of agent interaction, argumentation is important when a conflict of opinion arises between negotiating or collaborating agents. Agents may disagree, for instance, about the pros and cons of alternative proposals, or they may disagree about the factual basis of such proposals. Argumentation provides a natural mechanism for the resolution of such disagreements.

Argumentation has long been studied in disciplines such as philosophy, and one can find approaches in computer science from the 1970s onwards that clearly owe something to the notion of an argument. However, what we can distin-
guish as “computational argumentation,” by which we mean approaches in which arguments are explicitly constructed and compared as a means of solving problems on a computer, first started appearing in the second half of the 1980s. From this point on, articles on argumentation have appeared with increasing frequency, and today argumentation is considered to be a major sub-topic within artificial intelligence. A lot of the current work on argumentation appears under the umbrella of multiagent systems, where dialogical models based on argumentation have become a major research topic.

One of the results of argumentation’s move into the mainstream is that the venues for discussing argumentation — which have moved from being small workshops attached to major conferences to those major conferences themselves — have become increasingly selective. While this is a good thing for the visibility of the field, it also makes it harder to find venues to discuss more speculative ideas and to get feedback on work-in-progress — even the Argumentation in Multiagent Systems workshop that is attached to the Autonomous Agents and Multiagent System conference is now receiving more good submissions than it can easily handle. This is a loss for the field, particularly in that it tends to squeeze out early work on a topic, preventing beginning Ph.D students from getting feedback on their work at a point when they are best placed to benefit from it. This is an aspect we hope to address in this symposium.

In particular, we want to create a forum for wide-ranging discussion of the possible applications of techniques from computational argumentation which gives special focus to strongly innovative ideas, ideas that can engage current researchers in the area and can inspire others to become researchers in the area.