A Brief Introduction to Distributed Planning

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1 Introduction

The issues inherent in multi-agent systems are appealing to me in general, as I spend most of my time at work working on a distributed multi-agent text classifying system. In many ways, we can interpret neural networks as being a way of programatticaly dealing with multi-agent systems. This led me to look for overviews of multi-agent approaches in order to solve planning problems. The challenges inherent in multi-agent systems stem from the need to support the interleaving of actions in order to guarantee completeness, as was pointed out by Allen Brown (Sussman, 1975). This challenge is only exacerbated when we the agents are also decentralized, with no main finalizing agent to aggregate the results. Furthermore, a given agent in a distributed multi-agent system isn't only concerned with the question of how to interleave its actions with those of its companions, but it must also deal with the possibiliy that each agent might view a different subset of the problem space, if only partial observability can be guaranteed.[1]

2 Developments

References

[1] Andrea Bonisoli, *Distributed and Multi-Agent Planning: Challenges and Open Issues*, Universita degli Studi di Brescia, Brescia, Italy 2013.

[2] Raz Nissim et al., *A General, Fully Distributed Multi-Agent Planning Algorithm*, Ben-Gurion University, Israel 2012.