Technical University of Denmark

02285 Artificial Intelligence and Multi-agent Systems

Mandatory Assignment 2

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April 1, 2014

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Introduction

This assignment is about being able to explore an unknown environment with multi-agents. Furthermore the agents should be able to coordinate their position such that their team achieves a good score. This report documents our analysis of the problem, our solution and lastly the achieved results.

Problem Analysis

Good score

The notion of a good score is purposely defined vague by the problem definition. We have decided that a good score is not defined by a simple value we must achieve nor is it a score we achieve by controlling certain high value vertices. Our definition of a good score is controlling a subgraph such that it isolates that subgraph from the other teams' agents, i.e. a frontier.

Solution

Messaging

Coordination

Strongly connected components

Results