

Models and Algorithms for Online Exploration and Search

Filesize: 4.12 MB

Reviews

Complete information for publication fanatics. It is actually rally intriguing throgh reading period of time. I am happy to explain how this is actually the greatest publication i actually have read inside my own daily life and may be he finest ebook for possibly. (Ms. Heidi Rath)

MODELS AND ALGORITHMS FOR ONLINE EXPLORATION AND SEARCH



To read **Models and Algorithms for Online Exploration and Search** eBook, you should access the button listed below and download the file or get access to additional information which might be in conjuction with MODELS AND ALGORITHMS FOR ONLINE EXPLORATION AND SEARCH book.

Shaker Verlag Apr 2011, 2011. Buch. Book Condition: Neu. 24x17x cm. Neuware - This work considers some algorithmic aspects of exploration and search, two tasks that arise, for example, in the field of motion planning for autonomous mobile robots. We assume that the environment is not known to the robot in advance, so we deal with online algorithms. First, we consider a special kind of environments that we call cellular environments, where the robot's surrounding is subdivided by an integer grid. The robot's task is to visit every cell in this grid at least once. We distinguish between simple grid polygons (i.e., polygons with no obstacles inside) and general grid polygons. We show that no online exploration strategy is able to achieve a competitive factor better than 7/6 for simple grid polygons and better than 2 for general grid polygons. That is, the path of an online exploration strategy is in the worst case at least 7/6 times (2 times, respectively) longer than the optimal path that was computed with full knowledge of the environment. For both cases we develop exploration strategies and show upper bounds on their performance. More precisely, for environments without obstacles we provide a strategy that produces tours of length S = C + E/2 - 3, and for environments with obstacles we provide a strategy that is bound by S = C + E/2 + 3H + W - 2, where C denotes the number of cells-the area-, E denotes the number of boundary edges-the perimeter-, H is the number of obstacles, and W is a measure for the sinuosity of the given environment. Moreover, we show that the strategy for simple grid polygons is 4/3-competitive; that is, the path generated by our strategy is never longer than 4/3 times the optimal path. Second, we...

Read Models and Algorithms for Online Exploration and Search Online
 Download PDF Models and Algorithms for Online Exploration and Search

Other Books

P	DF

[PDF] Becoming Barenaked: Leaving a Six Figure Career, Selling All of Our Crap, Pulling the Kids Out of School, and Buying an RV We Hit the Road in Search Our Own American Dream. Redefining What It Meant to Be a Family in America.

Click the link listed below to download "Becoming Barenaked: Leaving a Six Figure Career, Selling All of Our Crap, Pulling the Kids Out of School, and Buying an RV We Hit the Road in Search Our Own American Dream. Redefining What It Meant to Be a Family in America." PDF document.

Download ePub »



[PDF] Joey Green's Rainy Day Magic: 1258 Fun, Simple Projects to Do with Kids Using Brand-name Products Click the link listed below to download "Joey Green's Rainy Day Magic: 1258 Fun, Simple Projects to Do with Kids Using Brand-name Products" PDF document. Download ePub »

PDF

[PDF] Simple Signing with Young Children : A Guide for Infant, Toddler, and Preschool Teachers
Click the link listed below to download "Simple Signing with Young Children : A Guide for Infant, Toddler, and Preschool Teachers"
PDF document.
Download ePub >



[PDF] I Am Reading: Nurturing Young Children s Meaning Making and Joyful Engagement with Any Book Click the link listed below to download "I Am Reading: Nurturing Young Children s Meaning Making and Joyful Engagement with Any Book" PDF document. Download ePub »

DI	١	-1	

[PDF] Dom's Dragon - Read it Yourself with Ladybird: Level 2 Click the link listed below to download "Dom's Dragon - Read it Yourself with Ladybird: Level 2" PDF document. Download ePub »

PDF	

[PDF] Learn em Good: Improve Your Child s Math Skills: Simple and Effective Ways to Become Your Child s Free Tutor Without Opening a Textbook

Click the link listed below to download "Learn em Good: Improve Your Child's Math Skills: Simple and Effective Ways to Become Your Child's Free Tutor Without Opening a Textbook" PDF document.

Download ePub »