Ant Algorithms


Bearbeitet von
Marco Dorigo, Gianni Di Caro, Michael Sampels

ISBN 978 3 540 44146 5
Format (B x L): 15,5 x 23,3 cm
Gewicht: 550 g

Weitere Fachgebiete > EDV, Informatik > Hardwaretechnische Grundlagen > Externe Speicher & Peripheriegeräte

Zu Leseprobe

schnell und portofrei erhältlich bei
Table of Contents

A MAX-MIN Ant System for the University Course Timetabling Problem ............................................. 1
Krzysztof Socha, Joshua Knowles, Michael Sampels

ACO Applied to Group Shop Scheduling: A Case Study on Intensification and Diversification .................... 14
Christian Blum

Agent-Based Approach to Dynamic Task Allocation .............. 28
Sherwin Nouyan

An Ant Colony Optimization Algorithm for the 2D HP Protein Folding Problem ........................................ 40
Alena Shmygelska, Rosalía Aguirre-Hernández, Holger H. Hoos

An Experimental Study of a Simple Ant Colony System for the Vehicle Routing Problem with Time Windows ................................................ 53
Ismail Ellabib, Otman A. Basir, Paul Calamai

Ant Algorithms for Assembly Line Balancing ......................... 65
Joaquín Bautista, Jordi Pereira

Ant Colonies as Logistic Processes Optimizers ....................... 76
Carlos A. Silva, Thomas A. Runkler, João M. Sousa, Rainer Palm

Ant Systems for a Dynamic TSP (Ants Caught in a Traffic Jam) ....... 88
Casper Joost Eyckelhof, Marko Snoek

Anti-pheromone as a Tool for Better Exploration of Search Space .... 100
James Montgomery, Marcus Randall

Applying Population Based ACO to Dynamic Optimization Problems .... 111
Michael Guntsch, Martin Middendorf

Cross-Entropy Guided Ant-Like Agents Finding Cyclic Paths in Scarcely Meshed Networks ............................................. 123
Otto Wittner, Bjarne E. Helvik

Insertion Based Ants for Vehicle Routing Problems with Backhauls and Time Windows ................................................. 135
Marc Reimann, Karl Doerner, Richard F. Hartl

Modelling ACO: Composed Permutation Problems .................... 149
Daniel Merkle, Martin Middendorf
Self-Organized Networks of Galleries in the Ant Messor Sancta ............ 163
Jérôme Buhl, Jean-Louis Deneubourg, Guy Theraulaz

Solving the Homogeneous Probabilistic Traveling Salesman Problem
by the ACO Metaheuristic ........................................ 176
Leonora Bianchi, Luca Maria Gambardella, Marco Dorigo

Toward the Formal Foundation of Ant Programming .................. 188
Mauro Birattari, Gianni Di Caro, Marco Dorigo

Towards Building Terrain-Covering Ant Robots ......................... 202
Jonas Svennebring, Sven Koenig

Short Papers

A New Ant Colony Algorithm Using the Heterarchical Concept Aimed
at Optimization of Multiminima Continuous Functions ............ 216
Johann Dréo, Patrick Siarry

An Ant-Based Framework for Very Strongly Constrained Problems ...... 222
Vittorio Maniezzo, Matteo Milandri

Analysis of the Best-Worst Ant System and Its Variants on the QAP ... 228
Oscar Cordón, Ignacio Fernández de Viana, Francisco Herrera

Ants and Loops .................................................... 235
Geoffrey Canright

Candidate Set Strategies for Ant Colony Optimisation .................. 243
Marcus Randall, James Montgomery

Dynamic Wavelength Routing in WDM Networks via Ant Colony
Optimization ..................................................... 250
Ryan M. Garlick, Richard S. Barr

Homogeneous Ants for Web Document Similarity Modeling
and Categorization ............................................... 256
Kok Meng Hoe, Weng Kin Lai, Tracy S.Y. Tai

Parallel Ant System for the Set Covering Problem .................... 262
Malek Rahoual, Riad Hadji, Vincent Bachelet

Real-World Shop Floor Scheduling by Ant Colony Optimization ....... 268
Andre Vogel, Marco Fischer, Hendrik Jaehn, Tobias Teich

Simulation of Nest Assessment Behavior by Ant Scouts ................ 274
Erol Şahin, Nigel R. Franks

Using Genetic Algorithms to Optimize ACS-TSP ....................... 282
Marcin L. Pilat, Tony White
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Method for Solving Optimization Problems in Continuous Space</td>
<td>288</td>
</tr>
<tr>
<td>Chen Ling, Sheng Jie, Qin Ling, Chen Hongjian</td>
<td></td>
</tr>
<tr>
<td>A Nested Layered Threshold Model for Dynamic Task Allocation</td>
<td>290</td>
</tr>
<tr>
<td>Tom De Wolf, Liesbeth Jaco, Tom Holvoet, Elke Steegmans</td>
<td></td>
</tr>
<tr>
<td>ACO Algorithm with Additional Reinforcement</td>
<td>292</td>
</tr>
<tr>
<td>Stefka Fidanova</td>
<td></td>
</tr>
<tr>
<td>Ant Colony System for Image Segmentation Using Markov</td>
<td>294</td>
</tr>
<tr>
<td>Salima Ouadfel, Mohamed Batouche, Catherine Garbay</td>
<td></td>
</tr>
<tr>
<td>Bidimensional Shapes Polygonalization by ACO</td>
<td>296</td>
</tr>
<tr>
<td>Ugo Vallone</td>
<td></td>
</tr>
<tr>
<td>Coevolutionary Ant Algorithms Playing Games</td>
<td>298</td>
</tr>
<tr>
<td>Jürgen Branke, Michael Decker, Daniel Merkle, Hartmut Schmeck</td>
<td></td>
</tr>
<tr>
<td>GAACO: A GA + ACO Hybrid for Faster and Better Search Capability</td>
<td>300</td>
</tr>
<tr>
<td>Adnan Acan</td>
<td></td>
</tr>
<tr>
<td>GPS Positioning Networks Design: An Application of the Ant Colony System</td>
<td>302</td>
</tr>
<tr>
<td>Hussain Aziz Saleh</td>
<td></td>
</tr>
<tr>
<td><strong>Author Index</strong></td>
<td>305</td>
</tr>
</tbody>
</table>