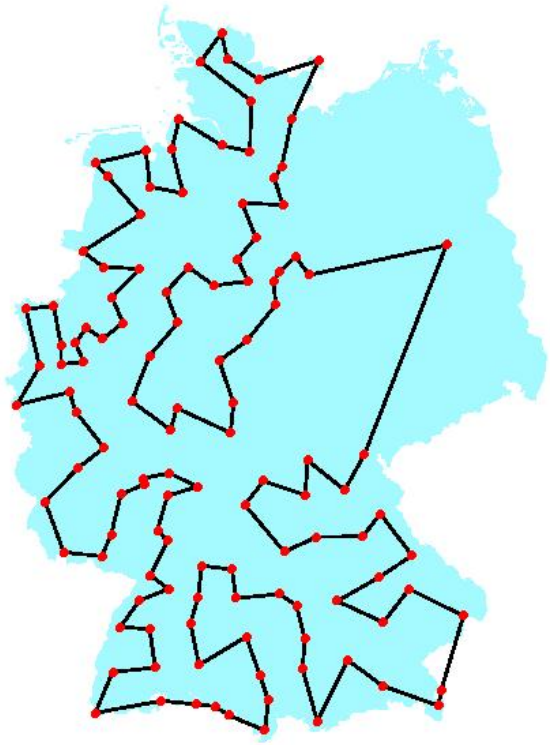
Università della Svizzera italiana

Facoltà di scienze informatiche

6th Artificial Intelligence CUP - 2011

Symmetric Travelling salesman problem, a classical combinatorial optimization problem.



Problem: given N cities, and a distance function d between cities (usually distance), find a tour that:

- goes through every city once and only once
- minimizes the total distance

6th Artificial Intelligence CUP

Information and Knowledge Management course

10 benchmark instances

Students have to propose and to implement their heuristic algorithm and to test it on the benchmark set

Max number of seconds x run (3 min)

Return the best computed solution for each instance

Problems from TSPLIB

Problem	Best Known
ch130	6110
d198	15780
eil76	538
fl1577	22249
kroa100	21282
lin318	42029
pcb442	50778
pr439	107217
rat783	8806
u1060	224094

AI CUP 2011 Results

3 students with average error below 0.3%

(9 students out of 24 with avg. error below 1%)

Thomas Mantegazzi
Yotam Sharon
Lorenzo Wölckner

AI CUP 2011 Results

THE WINNER IS Lorenzo Wölckner 0.08%

		Mantegazzi		**Sharon**		**Wölckner**	
Problem	Best Known	Results	Error	Results	Error	Results	Error
ch130	6110	6110	0.00%	6110	0.00%	6110	0.00%
d198	15780	15780	0.00%	15780	0.00%	15780	0.00%
eil76	538	538	0.00%	538	0.00%	538	0.00%
fl1577	22249	22357	0.49%	22355	0.48%	22285	0.16%
kroA100	21282	21282	0.00%	21282	0.00%	21282	0.00%
lin318	42029	42029	0.00%	42029	0.00%	42029	0.00%
pcb442	50778	50785	0.01%	50785	0.01%	50778	0.00%
pr439	107217	107217	0.00%	107217	0.00%	107217	0.00%
rat783	8806	8848	0.48%	8893	0.99%	8836	0.34%
u1060	224094	225451	0.61%	226424	1.04%	224788	0.31%
			0.16%		**0.25%**		**0.08%**

USI-Informatics 2011

6th Artificial Intelligence CUP

First Position

Lorenzo Wölckner

Best algorithm for the Symmetric Traveling Salesman Problem

Lugano, June 1st, 2011

University of Lugano, Faculty of Informatics

Prof. Luca Maria Gambardella