Results of ILS trials

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1. Introduction

Comparison of ILS, with different implementations, applied to some symmetric TSP instances (available in TSPLIB [TspLib]). For 1, the first column gives the instance name and its size. The next columns give the best cost, taken over 1000 iterations, using: (i) a *sequential* **2-opt** ILS with one **double-bridge** perturbation; (ii) a *Parallel*, multi-processing, using *OpenMP* with 16 threads, for (i); (iii) a **3-opt** ILS get from [Helena R. Lorenço and STUTZLE]. The best results are taken over 5 trials on each instance.

For **??**, the first column gives the instance name and its size. The next columns give the best elapsed time, in seconds, taken over 1000 iterations, using: (i) a *sequential* **2-opt** ILS with one **double-bridge** perturbation; (ii) a *Parallel*, multi-processing, using *OpenMP* with 12 threads, for (i); (iii) a **3-opt** ILS get from [Helena R. Lorenço and STUTZLE]. The best results are taken over 30 trials on each instance.

2. Trials results

2.1. Costs

Table 1. Solution of each symmetric TSP instance for Sequential and Parallel ILS.

Instance	Sequential Distance	Parallel Distance	Sequential Time	Parallel Time
d198	1.628×10^4	1.721×10^4	6.114×10^1	8.649
a280	2.643×10^3	2.729×10^3	1.755×10^2	2.411×10^1
lin318	4.382×10^4	4.763×10^4	2.775×10^2	3.941×10^1
pcb442	5.172×10^4	5.348×10^4	7.463×10^2	1.018×10^2
rat783	9.271×10^3	9.659×10^3	4.620×10^3	5.999×10^2
u1060	2.317×10^5	2.416×10^5	1.217×10^4	5.062×10^3

3. Títulos

- → Traveling Salesman Problem of optimal debris removal sequence using non-population gradient search.
- → A hybrid and adaptive evolutionary approach for multitask optimization of post-disaster traveling salesman and repairman problems
- → A comprehensive survey on the generalized traveling salesman problem
- → A novel hybrid swarm intelligence algorithm for solving TSP and desired-path-based online obstacle avoidance strategy for AUV

→ Time-reliability optimization for the stochastic traveling salesman problem
→ Unmanned Aerial Vehicle-enabled grassland restoration with energy-sensitive of trajectory design and restoration areas allocation via a cooperative memetic algorithm
→ New features for customer classification in the Flying Sidekick Traveling Salesman Problem
→ A new evolutionary optimization algorithm with hybrid guidance mechanism for truck-multi drone delivery system
→ An effective memetic algorithm for the close-enough traveling salesman problem
→ On the Application of Heuristics of the TSP for the Task of Restoring the DNA Matrix
→ Estimating optimal objective values for the TSP, VRP, and other combinatorial problems using randomization
→ Solving Traveling Salesman Problem Using Parallel River Formation Dynamics Optimization Algorithm on Multi-core Architecture Using Apache Spark
→ Genetic algorithm to the bi-objective multiple travelling salesman problem
→ The Discrete Carnivorous Plant Algorithm with Similarity Elimination Applied to the Traveling Salesman Problem
→ The parallel drone scheduling problem with multiple drones and vehicles
→ New mixed integer linear programming models and an iterated local search for the clustered traveling salesman problem with relaxed priority rule
→ Multi-objectivization inspired metaheuristics for the sum-of-the-parts combinatorial optimization problems

References

Helena R. Lorenço, O. M. and STUTZLE, T. Iterated local search.

TspLib. Disponível em: `http://comopt.ifi.uni-heidelberg.de/software/TSPLIB95/`. Acesso em: 11 de setemrbo 2023.