

This work presents an algorithm to optimize the transportation management. The authors are including a case of study which solves a real routing problem applied to the distribution of bottled products. The proposed algorithm shows a saving in quantity of vehicles and reduces the operation costs of the company.

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2012-03-02

Looking for Reverse Transformations between NP-Complete Problems

Autor(es): Pazos, Rodolfo; Ong, Ernesto; Fraire, Héctor; Cruz-Reyes, Laura; Martínez, José

Many problems related to logistics have been proven to belong to the NP-complete class such as Bin Packing, job scheduling, timetabling, etc. The theory predicts that for any pair of NP-complete problems A and B there must exist a polynomial time transformation from A to B and also a reverse transformation (from B to A). However, for many pairs of NP-complete problems no reverse transformation has been reported in the literature; thus the following question arises: do reverse transformations exist for any pair of NP-complete problems? This chapter presents results on an ongoing investigation for clarifying this issue.

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2010-02-01

Artificial Societies and Social Simulation using Ant Colony, Particle Swarm Optimization and Cultural Algorithms

Autor(es): Ochoa, Alberto; Hernández, Arturo; Cruz-Reyes, Laura; Ponce, Julio; Montes, Fernando; Li, Liang; Janacek, Lenka

The proposal of this chapter is to explain the implementation of collective intelligent techniques to improve results in artificial societies and social simulation using diverse concepts such as argumentation, negotiation and reputation models to improve social simulation of artificial societies implementing dioramas, and multivariable analysis in different application domains for example Logistics.

LIBRO: New Achievements in Evolutionary Computation - *IN-TECH* (pags. -), MÉXICO; ISBN: 978-953-307-053-7;

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2010-01-01

Parallel Genetic Algorithms for Architecture Optimization of Neural Networks for Pattern Recognition

Autor(es): Cárdenas, Martha; Melin, Patricia; Cruz-Reyes, Laura

This Paper presents the Architecture optimization of Neural Networks using parallel Genetic Algorithms for pattern recognition based on person faces.

LIBRO: Soft Computing for Recognition Based on Biometrics - *Springer Berlin Heidelberg* (pags. -), MÉXICO; ISBN: 978-3-642-15110-1;

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2010-01-01

Comparative Analysis of Hybrid Techniques for an Ant Colony System Algorithm Applied to Solve a Real-World Transportation Problem

Autor(es): González-Barbosa, Juan Javier; Delgado-Orta, José Francisco; Cruz-Reyes, Laura; Fraire-Huacuja, Héctor Joaquín; Ramírez-Saldivar, Apolinar

This work presents a comparison of hybrid techniques used to improve the Ant Colony System algorithm (ACS), which is applied to solve the well-known Vehicle Routing Problem (VRP). The Ant Colony System algorithm uses several techniques to get feasible solutions as learning, clustering and search strategies.

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2010-01-01

Local Survival Rule for Steer an Adaptive Ant-Colony Algorithm in Complex Systems

Autor(es): Gómez-Santillán, Claudia Guadalupe; Cruz-Reyes, Laura; Schaeffer, Satu Elisa; Meza, Eustorgio; Rivera-Zarate, Gilberto

In this paper, a new ant-colony algorithm, Adaptive Neighboring-Ant Search (AdaNAS), for the semantic query routing problem (SQRP) in a P2P network is presented. The proposed algorithm incorporates an adaptive control parameter tuning technique for runtime estimation of the time-to-live (TTL) of the ants.

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2007-11-12

Statistical Selection of Relevant Features to Classify Random, Scale Free and Exponential Networks

Autor(es): Cruz-Reyes, Laura; Meza-Conde, Eustorgio; Turrubiates-López, Tania; Gómez-Santillán, Claudia; Ortega-Izaguirre, Rogelio

In this paper a statistical selection of relevant features is presented. An experiment was designed to select relevant and not redundant features or characterization functions, which allow quantitatively discriminating among different types of complex networks.

LIBRO: Innovations in Hybrid Intelligent Systems - *Springer-Verlag* (pags. -), MÉXICO; ISBN: 978-3-540-74971-4;

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