EDITORIAL
Vol. 13 No. 4
Special Issue on Social Hybrid Artificial Intelligent Systems

The goal of an artificial intelligent system is to implement on a computer the mechanisms that simulate the human intelligence. The objective is to perform some activities just like a human person would do it. Fundamentally, who performs the task, person or computer, must pass unnoticed to the people. Those mechanisms can be classified in either two main basic groups: hard AI and soft AI. Soft AI is a collection of techniques based on heuristics, whilst the hard AI approach is heavily based in mathematical models.

The goal of this special issue is to present a collection of papers on artificial intelligent systems based on hybrid methods. The "hybrid" term means that the basic technique, either hard or soft, is extended with other principles or techniques which aim to improve its performance, or intelligence.

This issue consists of six papers selected from a total set of twenty four papers which were submitted for review and evaluation to an international reviewing committee.

The paper "MIRROS: Intermediary Model to Recovery Learning Objects", authored by Lourdes Margain Fuentes, et al., presents an agent based approach for the recovery of learning objects. Based on the user needs, a reference model recommends the learning object that best suits the user.

Fernando Montes González, et al., presents the paper "A Hybrid Approach in the Development of Behavior Based Robotics". The problem is the following: a Kephera robot has to collect some objects simulating food. In the environment of the robot, two motivations, namely "fear" and "hunger", affect the task. The proper action is selected from a behavioral repertoire

The paper "Construction of an Optimal Solution for a Real-World Routing Scheduling-Loading Problem", authored by Juan J. Gonzalez et al., presents an approach to solve an instance of the vehicle routing problem called Routing Loading Scheduling Problem. The method uses a linear transformation to tackle this NP-hard problem by reducing its dimensionality. Therefore, the computation time is reduced from 55 to 4 seconds, and permits to find an optimal solution.

Aurora Torres et al., presents the paper "A Robust Evolvable System for the Synthesis of Analog Circuits". This work introduces special reproduction operators into a genetic algorithm which is used for the design of analog circuits. A new representation that permits the evolution of mostly valid circuits, that is, circuits that can be evaluated in SPICE, is shown to speed up the convergence of the algorithm.

The paper "New Algorithm Transgenic with Homology to Solve the Problem of OneMax" is presented by Christian José Correa Villalón et al. This new algorithm gets inspiration from techniques used in biotechnology, known as Transgenic. Similar to a a genetic algorithm, this paper presents new operators for the transgenic algorithm, and applies it to solve the OneMax problem.

The last paper is "A Self-Adaptive Ant Colony System for Semantic Query Routing Problem in P2P Networks", presented by Claudia Gómez Santillán et al. They introduce the Neighboring Ant Search Algorithm (NAS). NAS is an ant colony system approach hybridized with local environment strategies of learning, characterization, and exploration. The new approach achieves self-adaptive peer to peer interconnections on a network,

The authors of two recent doctoral dissertations describe their work. José Arturo Olvera López presents a short version of his dissertation called "Prototype Selection Methods". José Alberto Hernández Aguilar presents "Design and Implementation of an Assessment Remote System with Advanced Security for Universities through Data Mining"

Guest Editors
Alberto Ochoa Ortíz Zezzatti
Arturo Hernández Aguirre