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چکیده - این روز ها نقص برنامه‌های کاربردی و در فناوری اطلاعات سیاسی قبل توجه می‌باشد. این برنامه‌ها حجم زیادی از داده‌های محوري را مورد پردازش قرار می‌دهند و لزوم حفظ این داده‌ها از دسترسی افراد غیر مجاز کامل بپذیرد می‌باشد. حمله‌های SQL تریک به منظور دسترسی به اطلاعات محرومانه صورت می‌گیرد که از بین آنها، حمله‌های SQL تریک مربوط به یک توجه به اینکه در یک زمان، کاربران زیادی را مورد هدف قرار می‌دهند از اهمیت برخوردارند. در این مقاله، حمله جدیدی با نام XSI حمله SQL متقاطع (XSI) بررسی می‌شود. حمله SQL در موقعیتی که نفوذگر در سیستم خود نمی‌تواند حمله SQL انجام دهد مورد توجه می‌باشد. بنابراین حمله موجب تریک SQL از سیستم‌ها و پس از نمای حاصل از این حمله SQL برای حمله SQL یک نوع سایر حمله SQL که در این حمله SQL از سایر حمله SQL که در این حمله SQL از سایر حمله SQL که در این حمله SQL از سایر حمله SQL که در این حمله SQL از سایر حمله SQL که در این حمله SQL از سایر حمله SQL که در این حمله SQL از سایر حمله SQL که در این حامله SQL از سایر حمله SQL که در این حامله SQL از سایر حمله SQL که در این حامله SQL از سایر حمله SQL که در این حامله SQL از سایر حمله SQL که در این حامله SQL از سایر حمله SQL که در این حامله SQL از سایر حمله SQL که در این حامله SQL از سایر حمله SQL که در این حامله SQL از سایر حمله SQL که در این حامله SQL از سایر حمله SQL که در این حامله SQL از سایر حمله SQL که در این حامله SQL از سایر حمله SQL که در این حامله SQL از سایر حمله SQL که در این حامله SQL از سایر حمله SQL که در این حامله SQL از سایر حمله SQL که در این حامله SQL از سایر حمله SQL که در این حامله SQL از سایر حمله SQL که در این حامله SQL از سایر حمله SQL که در این حامله SQL از سایر حمله SQL که در این حامله SQL از سایر حمله SQL که در این حامله SQL از سایر حمله SQL که در این حامله SQL از سایر حaml...
Fuzzy Wavelet Neural Network Learning Using Artificial Bee Colony Algorithm

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Abstract: This paper presents a new hybrid algorithm for Fuzzy Wavelet Neural Network (FWNN) design. Proposed algorithm uses Orthogonal Least Square (OLS) algorithm to purify candidate wavelets and Artificial Bee Colony (ABC) Algorithm to learn FWNN. In the proposed network, the fuzzy rule corresponds to one sub-wavelet neural network (sub-WNN) which corresponds to wavelets with a specified dilation value. Orthogonal least square algorithm is used to choose efficient wavelets and to determine the number of fuzzy rules for network construction. In the proposed strategy, by minimizing a quadratic measure of the error between desired output and the FWNN’s output, the problem is formulated as an optimization problem and the ABC algorithm is suggested to solve it. The structure is tested for the identification of the dynamical plants and prediction of chaotic time series. Simulation results demonstrate effectiveness and ability of the proposed approach. To validate the results obtained by the proposed FWNN based ABC, a FWNN based Shuffled Frog Leaping (SFL) algorithm is adopted from the literature and applied for comparison. The simulation studies show ABC performs well in finding the solution.

Keywords: Artificial bee colony algorithm, Fuzzy wavelet neural network, Identification, Prediction

A New Hybrid Algorithm Based on Firefly Algorithm and Cellular Learning Automata

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Abstract: In this paper, a new evolutionary optimization model, called CLA-FA, is proposed. This new model is a combination of a model called cellular learning automata (CLA) and the Firefly Algorithm (FA). In the proposed algorithm, at first we modify the firefly algorithm to improve the efficiency of this algorithm then we use this algorithm with CLA. In the proposed algorithm, each dimension of search space is assigned to one cell of cellular learning automata and in each cell a swarm of fireflies are located which have the optimization duty of that specific dimension. The learning automata in each cell are responsible for making diversity in fireflies’ swarm of that dimension and adapting the FA parameters for equivalence between global search and local search processes. In order to evaluate the proposed algorithm, we used five well known benchmark function, including: Sphere, Ackly Rastrigin, Xin-she yang and Step functions in 10, 20 and 30 dimensional spaces. The experimental results show that our proposed method can be effective to find the global optima and can improve the global search and the exploration rate of the standard firefly algorithm.

Keywords: Firefly algorithm, Cellular learning automata, Optimization, Global search, Local search
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A Fast Pipelined Lookup Table Based Hardware Implementation for Fractal Coding of Binary Images

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Abstract- A pipelined hardware implementation is provided for a fast binary image fractal coding. The related algorithm suggests each range segment, R segment, is classified into three groups of absolutely black, absolutely white, and non-monochrome. For absolutely black and absolutely white R blocks, which are very probable in binary images, the required storage and computation has low cost. For non-monochrome ones, number of white pixels in each R segment and the index of corresponding domain segment, D segment, for current R segment are stored. The low computational hamming distance is used for R and D segments comparison. Moreover, to speed up the fractal coding, a lookup table to retrieve coded range segment information are utilized. The encoder module is successfully synthesized to a FLEX10K family device. Experimental results show that the proposed algorithm is both fast and accurate.

Keywords- Pipelined hardware, Binary image, Fractal Coding, Lookup table

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A Robust Heuristic Algorithm for Cooperative Particle Swarm Optimizer: A Learning Automata Approach

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Abstract- This paper presents a modification of Particle Swarm Optimization (PSO) technique based on cooperative behavior of swarms and learning ability of an automaton. This approach called the Cooperative Particle Swarm Optimization based on Learning Automata (CPSOLA). The CPSOLA algorithm uses three-layer cooperation: intra swarm, inter swarm and inter population. There are two active populations in CPSOLA. In the primary population, the particles are placed in all swarms and each swarm consist of multiple dimensions of search space. Also there is a secondary population in CPSOLA which is used the conventional PSO’s updating format. In the upper layer of cooperation, the embedded Learning Automaton (LA) is responsible for deciding whether to cooperate between populations or not. Experiments are organized on five benchmark functions and results show notable performance and robustness of CPSOLA, cooperative behavior of swarms and successful adaptive control of populations.

Keywords- Particle Swarm Optimization (PSO); Learning Automata (LA); Cooperative learning