EDITORIAL

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It is an honor to me to present the five articles and the PhD abstract that constitute the present issue of the Ibero-American Journal *Computación y Sistemas*. These contributions show the high quality standards that characterize the research works that are published each three months in this journal. The articles and the PhD abstract have undergone a through referring process and represent state-of-the-art contributions in the fields of computer science and systems.

In the paper written by González-Abril, Velasco-Morente, Ortega-Ramírez and García-Vaquero, a new kernel is proposed that allows working with letters chains obtained from a discrimination process of a continuous source highlighting, at the same time, the properties of such a source. Besides, the kernel developed was applied on a set of television shares obtained from the seven main television stations in Andalusia, Spain. Also, a comparative study is carried out by the authors for classification purposes.

In the second paper, Hernández-Guzmán proposes a new stability analysis method for DC to DC series resonant converters. The method proposed does not require any linear discrete time approximation and relies on geometrical considerations providing a clearer rationale when compared with other approaches previously reported in the literature. The stability analysis method introduced by the author shows to have interesting features such as to provide a graphical method to determine the region of the phase plane where asymptotically stable closed trajectories exist, and to allow the formulation of a geometrical condition that leads to stability criteria previously reported in the field in a straightforward way. Besides, the method gives a simple tool to study the stability and the performance of several previously proposed controllers.

In the work of Suárez-Castañón, Aguilar-Ibáñez and Martínez-García an interesting approach is presented to cipher and decipher information that is digitally represented. The methodology proposed is based on the discrete approximation form of the Lorentz system. The ciphering process is performed by generating a cipher key by the combination of the message to be ciphered and the states of the Lorenz dynamic system. The deciphering process is implemented by the reconstruction of the key using a Lorenz system state observer. One of the main features of the approach is the use of the concepts of chaotic circuit's synchronization.

In the fourth paper, Benítez-Pérez, Ortega-Arjona and Latif-Shabgahi introduce a range of novel software voting algorithms which adjudicate among the results of redundant smart sensors in a so called Triple Modular Redundant (TMR) system. The authors denote this methodology as *hybrid voters* in the sense that the voting algorithm is combined with smart sensors in order to increment performance; such integration is well illustrated in the paper through experimental evaluation. The work presented gives a novel insight to the problem of fault detection and isolation integration techniques by introducing voting algorithms that allow capturing the smartness information of sensors.

In the paper of García-Hernández, Nakano-Miyatake and Pérez-Meana, a real-time audio watermarking scheme is proposed. The watermark embedding stage proposed by the authors is based on a spread spectrum algorithm operating in the so called Modulated Complex Lapped Transform (MCLT) domain. The stage inserts a watermark that is generated using a private key which is modeled according to the Human Auditory System (HAS). The detection proposed is blind and is based on the Additive White Gaussian Noise (AWGN) channel theory. Several whitening methods in the receptor side were evaluated showing that the proposed watermarking embedding scheme is robust to common attacks such like, D/A and A/D conversion, filtering, additive noise and high quality MPEG audio coding.

Finally, an abstract of the doctoral dissertation of Gómez-Fuentes is presented. Gómez-Fuentes proposes the use of a Fully Equivalent Operational Model (FEOM) for the modeling of physical systems with a high number of variables, described by means of a set of differential equations. The methodology proposed allows solving stiff systems of differential equations, for which the solution is computationally intensive. Through some numerical examples related to chemical reaction mechanisms the approach is evaluated, leading to a significant reduction of the computational load.

On behalf of the Chief and Associate Editors of the Ibero-American Journal *Computación y Sistemas*, I would like to thank all the authors that contributed to the present issue of the journal. The research results that appear in these pages will certainly be of great value to the system and computer science community.

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