

## Editorial

The complexity of real- world applications demands more and more new computational paradigms, approaches and techniques, which complement or even substitute the traditional approaches. In this volume of *Computación y Sistemas* we have included six research papers and extended summary of a doctoral thesis that reflect this trend in uncertainty management where computational intelligence methods (neural networks and fuzzy logics) are applied in new software engineering practices and in the search for solutions for a new paradigm of quantum computing.

García Pacheco and García Matias in the paper titled "A methodology based of effective practices to develop educational software" propose the introduction of the "effective practices" in a methodology to develop education software called MeSoFT where the technical and pedagogical aspects are integrated. This article can be of special interest for the institutions of higher education with limited resources for their educative infrastructure, where one of the solutions could be a Programmable and Virtual Electronic Instrumentation laboratory.

The industrial practices of software engineering are guides by the Capability Maturity Model (CMM), where on of the key is the personal software process. Unfortunately, 90% of Mexican software development companies do not count on formal process to register, track and control, diverse aspects of development process, López Martín, Yañez Márquez, Gutiérrez Tornés and Felipe Riverón in their paper "Adequacy checking of personal which aims in helping to diminish this deficiency.

The paper "A mixed hardware/software SOFM training system" by Ramírez Agundis, Gadea Girones, Colom Palero and Díaz Carmona describes a system to train a Self-Organizing Feature Map (SOFM) neuronal network. This system uses as a coprocessor a FPGA based board that, compared with a totally software implementation, allows to reduce the training time in 89%.

The paper by Vera Alfaro and Salas Rodríguez "Calculating of the uncertainty in the visual measurement of the parameters of a Foucault pendulum" processes a model that by means of a simulation using the Monte Carlo method allows measuring the uncertainty in the calculation of the parameters describing the kinematics of the pendulum and obtained with an artificial vision system. The results show that a computer system of image analysis can be reliably used to make such measurements.

The proliferation of Web has created new forms of social interaction, like Weblogs (more know like blogs), that have evolved from simple Web sites with personal postings towards the digital communities. The paper "Evaluating the authority in a Weblog Community" by Ochoa, Hernández, González, Castro and Ponce studies this phenomenon applying social networks techniques over the data collected during three years within the Blogdex project.

The traditional digital computing soon will be arriving at its limit since we cannot make the chips infinitely small. An answer to this challenge is a quantum computer that is equivalent to a non-deterministic Turing machine. One of the main challenges in the quantum computing is the one to implement coherence of qubits in a practical way. Valentín Rodríguez, Martínez Reyes and Avila Aoki in their paper "Qubits structure as an enhancement factor of coherence in a one-way quantum computer" study nuclei qubits as source of coherence enhancement and show that they can be more stable than qubits of silicone electrons although this stability would limit the speed of computation.

Finally, García Infante presents a summary of his doctoral Thesis titled "Real-time Fuzzy Digital Filtering" where he develops a real-time fuzzy digital adaptive filter, which has the possibility to adjust its parameters automatically and the capacity to have high convergence levels.

The continuous advances of the computer science, like those reported in this issue, allow day by day the development of new information technologies and their practical application thus contributing to the scientific and technological development of the information society.

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