Editorial

This issue of the journal "*Computación y sistemas*" represents, as usual, great effort of the authors who are conducting excellent research, the editorial team, associate editors and reviewers who selected the best regular papers submitted to our journal. The work of all these persons makes it possible to present to the readers the high quality papers and maintain traditional high research standards of the journal.

Note that starting from this issue we adjust the numbering of issues to a calendar year, thus, the issue that corresponds to January will be the first one, etc. The journal published its first issue in July 1997, and traditionally its numbering was shifted, i.e., the first issue of the volume was published in July of each year. This situation causes difficulties in indexing/referencing and is very unnatural. Now this problem is solved.

The current issue contains nine regular papers and a report on a PhD thesis.

The paper "*Control of Mechanical Systems with Dry Friction*" by Roque Martínez and Joaquín Álvarez deals with the theme of control in case of dry friction and presents a technique to design a dynamic continuous controller for this situation. A method for defining of the parameters of the controller is also proposed. An example is presented that discusses the control of a 2-DOF underactuated mechanical system with dry friction in the non-actuated joint.

José R. García Ordaz, Marco A. Ramírez Salinas, Luis A. Villa Vargas, Herón Molina Lozano, and Cuauhtémoc Peredo Macías present their work "*A Reorder Buffer Design for High Performance Processors*", where they design distributed reorder buffer microarchitecture by using small structures near building blocks. These blocks use the same tail and head pointer values on all structures for their synchronization. It is shown that this design allows higher performance.

In the paper "*An Operational Approach for Implementing Normative Agents in Urban Wastewater Systems*" by Juan Carlos Nieves, Dario Garcia-Gasulla, Montse Aulinas, and Ulises Cortés, a model for water quality evaluation is presented. Normative agents that verify the regulations of the Catalan pollution-prevention policies are described. These agents are designed using Situation Calculus.

A special case of the electronic voting system is discussed in the paper "*Secure Architectures for a Three-Stage Polling Place Electronic Voting System*" by Josué Figueroa González and Silvia B. González Brambila. Secure architecture of such systems is presented that guarantee security, integrity and authenticity of the most important elements involved in an electoral process: configuration files, recorded votes and final result files. Various cryptographic protocols are discussed.

The paper "*Incorporating Angular Ratio Images into Two-Frame Stereo Algorithms*" by Pablo Arturo Martínez González and Mario Castelán proposes a post-processing operation on images based on slope angles related to the ratio values. Their experiments show that new angular ratio images are more robust and deliver improved disparity maps. The authors also perform an experimental evaluation of angular ratio images under the standard test bed for two-view stereo algorithms.

Guillermo Baqueiro Victorín and Jean Bernard Hayet present the paper "*Robust Extrinsic Camera Calibration from Trajectories in Human-Populated Environments*", where they propose an approach to perform inter-camera and ground-camera calibration in the situation when visual monitoring is performed and the humans are the objects of this monitoring. So, the humans are tracked by the systems. Several challenging experimental setups are presented and evaluated.

An interesting issue of chromatic correction in outdoor scenes is addressed in the paper "*Chromatic Correction Applied to Outdoor Images*" by H. Peregrina-Barreto, J. G. Aviña-Cervantes, I. R. Terol-Villalobos, J. J. Rangel-Magdaleno, and A. M. Herrera-Navarro. Sometimes the images – especially outdoor images – are affected by a dominant color that changes its chromatic information that is called *cast*. So, a color correction must be applied. In

the paper, a method for correcting the color is proposed. This method consists in a complete cast processing: detection, color correction, and color improvement.

The paper "*Morphological Contrast Index based on an Analysis of Contours and Image Background*" by Angélica R Jiménez Sánchez, Jorge D Mendiola Santibañez, Gilberto Herrera Ruíz, and Israel Santillan proposes to use a contrast index for quantifying the perceived contrast in an image. The index is based on Weber's law and takes into account background estimation. Experiments that evaluate its performance are presented.

In the paper "*Optimal Design of Multiplierless Hilbert Transformer based on the Use of a Simple Subfilter*" by David E. Troncoso Romero, Miriam G. Cruz Jiménez, and Gordana Jovanovic Dolecek, an optimal method to design a subfilter and prototype filter minimizing the number of coefficients is proposed. Two examples are presented for illustration of this approach.

In this issue, Section "Reports on PhD Thesis" contains the paper "*Semantic Cohesion for Image Annotation and Retrieval*" by Hugo Jair Escalante, Luis Enrique Sucar, and Manuel Montes-y-Gómez who present methods for image annotation and retrieval based on semantic cohesion among terms. They propose 1) a region labeling technique that assigns an image the label that maximizes an estimate of semantic cohesion among candidate labels associated to regions in segmented images, and 2) document representation techniques that are based on semantic cohesion among multimodal terms that compose images. Experiments that show the effectiveness of the methods are presented.

I am sure that these excellent papers will be interesting for the readers of our journal.

Grigori Sidorov
Editor-in-Chief of "*Computación y sistemas*"
Research professor of *Centro de Investigación en computación Instituto Politécnico Nacional*, Mexico