RECENT RESEARCHES in CIRCUITS, SYSTEMS, ELECTRONICS, CONTROL & SIGNAL PROCESSING

9th WSEAS International Conference on CIRCUITS, SYSTEMS, ELECTRONICS, CONTROL & SIGNAL PROCESSING (CSECS '10)

Vouliagmeni, Athens, Greece
December 29-31, 2010

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Preface

This year the 9th WSEAS International Conference on CIRCUITS, SYSTEMS, ELECTRONICS, CONTROL & SIGNAL PROCESSING (CSECS '10) was held in Vouliagmeni, Athens, Greece, December 29-31, 2010. The conference remains faithful to its original idea of providing a platform to discuss molecular electronics, molecular computing, microelectronics, microcircuits, circuits and systems for control and robotics, circuits in power technology, robotics, fuzzy systems, neural networks, genetic algorithms, speech and image processing systems, sonar and underwater acoustic systems, filter design, nonlinear circuits, military electronics, supercomputing, circuits and electronics for control, man-machine interaction, cybernetics, signal processing systems for control, signal reconstruction, psychoacoustics, evolutionary computation, remote sensing, signal processing for robotics, astronomy, satellite signals processing etc. with participants from all over the world, both from academia and from industry.

Its success is reflected in the papers received, with participants coming from several countries, allowing a real multinational multicultural exchange of experiences and ideas.

The accepted papers of this conference are published in this Book that will be indexed by ISI. Please, check it: www.worldses.org/indexes as well as in the CD-ROM Proceedings. They will be also available in the E-Library of the WSEAS. The best papers will be also promoted in many Journals for further evaluation.

A Conference such as this can only succeed as a team effort, so the Editors want to thank the International Scientific Committee and the Reviewers for their excellent work in reviewing the papers as well as their invaluable input and advice.

The Editors

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Plenary Lecture 1

Motion Noise Separation in Digital Video

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Abstract: The majority of the information transferred over networks today is multimedia data. Voice, text, and music represent a small proportion, compared to video and image data. Consecutive video frames are highly correlated and usually there is very small change from one video frame to the next. Yet often times the video noise is perceived as motion, and the motion is perceived as noise. Missclassification of noise as motion results in lower compression ratio, higher bandwidth required for video transmission across networks, and more memory storage required. It also acts as impedance in pattern recognition. In this work we present theories and algorithms which increase the probability of correctly classifying noise and motion. Applying these algorithms prior to motion estimation and motion compensation, we increase the compression ratio, increase the video quality, decrease the required transmission bandwidth, decrease the memory storage needed, and increase the ability for pattern recognition.

Brief Biography of the Speaker: E. A. Yfantis, is a full professor of Computer Science, which is part of the Engineering College at the unversity of nevada, Las Vegas. Dr. Yfantis is the author of over 200 reseach papers and technical reports in the areas of Computer Science, Information theory, Internet Intelligence, Signal Processing, Communication, Statistical Pattern Recognition, Probability theory, Statistics, Ocean Engineering, Aerodynamics, Electrical Engineering, Medicine, Visualization, Enviromental Protection, and Chemometrics. He has been a consultant for NASA, Los Alamos Scientific Laboratory, Sandia Laboratories, Lawrence Livermore Laboratories, EG&G, Naval Ocean System Center in Santiego California, Corps of Engineers U.S. Army, Lockheed Engineering and Aerospace, Northrop, NSTeC, U.S. EPA, U.S. Department of Energy, SGI, Exxon Corporation, Shell Oil Company, Bedix Corporation, Nevada Gaming Control Board, and many other companys in the US and Canada. His Education includes: Computer Science, Mathematics, Signal Processing, Statistics, Aeronautics, Ocean Engineering, and Electrical Engineering. He was educated at the Universities of: Athens Greece, Rutgers University in New Brunswick, N.J. U.S.A., New Jersey Institute of Technology, Newark, N.J., Fairleigh Dickinson University, Teaneck, N.J., U.S.A., University of Wyoming, Laramie, U.S.A., Columbia University in N.Y., N.Y., U.S.A, the University of Delaware, Newark, Delaware, U.S.A., School of Aeronautics in Teteboro N.J., U.S.A. He holds a Pilot's License, and is a certified Scuba Diver by PADI. Hi current research interests are Computer-Robot Vision, Statistical Pattern Recognition, and Multimedia Communication.

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