(1)
-A switched-capacitor delay line with self-equalizing sample-and hold

M.M. Doss and R. Unbehauen,

Abstract:

A simple SC delay line using a three-phase clock is described. The new circuit uses a reduced number of op amps. A circuit for correcting the amplitude deviation arising from the sample-and-hold effect is used. Unlike previous circuits this circuit does not affect the group-delay of the delay line. An example for a 10 μs delay line in the frequency range 0 to 250 kHz is given.

Keywords:

A switched-capacitor delay line with self-equalizing sample-and-hold

Published In:

International Journal of Electronics , vol. 64, No. 6 , pp. 929-933

(2)

Linear phase bandpass sampled-data filters

Magdy M. Doss

Abstract:

Approximately linear phase IIR digital filters are designed here as the sum of two allpass transfer functions, one of them is an exactly linear phase FIR filter or simply a delay element, while the other one is an IIR allpass. The IIR allpass parameters are obtained by using an optimization technique, in which the stability of the transfer function is guaranteed through special choice of the optimization parameters. The method has the advantage that it can be easily applied to switched capacitor filters. A new simple implementation method is given for this case.

Keywords:

Linear phase bandpass sampled-data filters

Published In:

Bulletin of the Faculty of Engineering, Assiut University , Vol. 25, No. 2 , pp. 97-103

(3)

Utilizing Repeated Adjacencies of Vector Quantization Indices in Image Compression

M.F. Abdel-Latif, T.K. Abdel-Hamid, M.M. Doss and H. Selim

Abstract:

Image compression using vector quantization (VQ) results in highly correlated indices. The correlation between these indices is used to reduce the bits needed to represent them. This is done by many index compression algorithms such as the Hu and Chang, search order coding (SOC), and switching tree coding (STC). A new algorithm for VQ index compression is introduced and it utilizes the local statistics of each image and the repeating pattern of its adjacent indices. The proposed algorithm improves the index compression performance of the basic VQ, with a relatively slight increase of complexity.

Keywords:

VQ Index Compression, Lossless Coding, Image Compression, Vector Quantization.

Published In:

Proc. 4th IEEE International Symposium on Signal Processing and Information Technology (ISSPIT 2004), Rome, Italy , , pp. 287-290

(4)

A New Image Compression Technique Based on Combining Feedforward Neural Networks and Discrete Cosine Transform

P.E. William, T.K. Abdel-Hamid, M.M. Doss and H. Selim

Abstract:

In this paper, we propose an algorithm for the application of one-hidden layer Feedforward Neural Network (OHL-FNN) to image compression. The algorithm combines OHL-FNN with Discrete Cosine Transform (DCT), here, the neural network learning algorithm performs the compression in a spectrum domain of DCT coefficients, i.e., the OHL-FNN approximates only the DCT coefficients representing the high detailed part of the image, Network parameters are stored in order to recover the image. Results, compared with baseline JPEG algorithm, demonstrate that the new algorithm dramatically increase compression for a given quality; conversely it increases image quality for a given compression ratio.

Keywords:

Image compression, discrete cosine transform, Feedforward Neural Network (FNN)

Published In:

Proc. 4th International Symposium on Communication Systems, Networks & Digital Signal Processing (CSNDSP 2004), Newcastle, U.K. , , pp. 448-451

(5)

Utilizing Index Usage Map for VQ Index Compression

M.F. Abdel-Latif, T.K. Abdel-Hamid, M.M. Doss and H. Selim

Abstract:

In practical vector quantization (VQ) of images, the used pixel block dimensions are kept small to reduce the cost of computations. This in turn results in highly correlated blocks and the corresponding VQ indices will inherit this high correlation. The compression of the basic VQ can be increased through utilising this high correlation of indices by inserting a lossless index compression stage after the VQ stage. A new index compression algorithm is introduced. In this algorithm the 2 dimensional index map is divided into nonoverlapping square blocks. Index usage in each of these blocks is employed to remap (renumber) the reduced number of actually used indices in this block, thus resulting in reduced bit rate expressed in bits/pixel The proposed algorithm reduces the average bit rate by a value depending on the codebook size, namely a reduction of about 32% for codebook size of 64, and down to about 23% for codebook size of 1024. Moreover this algorithm lends itself to being cascaded by other index compression algorithms resulting in increased compression.

Keywords:

VQ Index Compression, Lossless Coding, Image Compression, Vector Quantization.

Published In:

Proc. 4th IEEE International Symposium on Signal Processing and Information Technology (ISSPIT 2004), Rome, Italy , , pp. 291-295

(6)
Linear phase bandpass sampled-data filters

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Abstract:

Approximately linear phase IIR digital filters are designed here as the sum of two allpass transfer functions, one of them is an exactly linear phase FIR filter or simply a delay element, while the other one is an IIR allpass. The IIR allpass parameters are obtained by using an optimization technique, in which the stability of the transfer function is guaranteed through special choice of the optimisation parameters. The method has the advantage that it can be easily applied to switched capacitor filters. A new simple implementation method is given for this case

Keywords:

Linear phase bandpass sampled-data filters

Published In:

Proc. of the 42nd Symposium on Circuits and systems, Las Cruces, New Mexico, USA , , pp. 736-739

(7)

Flagged-modulo coding for robust and low complexity coding

U.S. Anees, M.M. Doss and H. Selim

Abstract:

Two novel speech coders , called flag modulo pulse code modulation GMPCM and enhansened flag modulo pulse code modulation EGMPCM , are presented. The coders are designed for medium and high bit rate applications. These coders use the modulo PCM principle. A flag bit is used to indicate changing in speech segments. The coders have small modulo amplitude and hence better SNR. Dynamic quantization and bit allocation are also used in these coders in effect these coders function as dynamic quantizers. EGMPCM coders use a new technique to reduce the modulo amplitude by modifying the input speech files. Both coders do not use predictors neither in coding nor in decoding stages. The coders depend only upon the actual difference between conp.

Keywords:

Flagged-modulo coding for robust and low complexity coding

Published In:

Proc. of the 8th International Conference on Signal Processing Applications & Technology, San Diego, California,USA , , pp. 473-477

(8)

A new adaptive technique for nonlinear systems modeling

Magdy M. Doss and M.F. Fahmy

Abstract:

A computationally simple approach is described for obtaining a mathematical model representing the behavior of nonlinear systems over the entire range to which it is subjected. This model is derived using either experimental results or computer simulation of the system under consideration. It is shown that if the information about the nonlinear system is based on experimental results, then the derived model is not affected with the measurement noise.

Keywords:

A new adaptive technique for nonlinear systems modeling

Published In:

Bulletin of the Faculty of Engineering, Assiut University , Vol. 25, No. 1 , pp. 97-103

(9)

Utilizing Support Vector Machines in Mining Online Customer Reviews

Taysir Hassan A. Soliman, Mostafa A. Elmasry, Abdel Rahman Hedar, and Magdy M. Doss

Abstract:

As e-commerce is increasingly becoming popular, the number of customer reviews that a product receives grows rapidly. However, for popular products, many online product reviews exist but for other reviews product reviews are very few. These online discussions about particular products may help other online users to make a decision in buying/ not buying those products, like in amazon.com and ebay.com. Since an enormous number of unstructured and ungrammatical reviews on a product exist, opinion mining is getting a crucial research area for better decision making of buying products. In this paper, we apply an opinion mining approach to summarize the unstructured and ungrammatical users' reviews, based on Support Vector Machine (SVM). Two levels of classification is applied: 1)Features classification and 2) Polarity classification for every feature class. Our approach has been tested on Amazon data with dataset of 535 sentences, where a summary is obtained and analysis of precision (93.15%) and recall (92.41%) illustrate the accuracy of the proposed system.

Keywords:

Opinion mining, E-commerce, sentiment analysis, support vector machines, reviews classification, opinion visual summary.

Published In:

Proceedings of 22th International Conference on Computer Theory and Applications ICCTA 2012, Alexandria, Egypt , NULL , NULL

(10)
test

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Abstract:

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Keywords:

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Published In:

test , test , test

(11)

Different Aspects of Localization Problem for Wireless Sensor Networks: A Review

Mohammed Farrag, Mohammed Abo-Zahhad, Magdy.M. Doss and Joseph V. Fayez

Abstract:

This paper describes the wireless sensor networks, which is widely used in the last few decades. The hardware architecture of sensor node as a construction unit for WSN is illustrated with sensor applications. The localization process and its challenges are mentioned. A comparison between algorithms and techniques for sensor localization is presented. The factors that affect design issues including different topologies, mobility matter of sensor nodes, security issues, and finally future work and new trends for wireless sensor network localization.

Keywords:

Wireless Sensor Networks, Localization, Mobility, Security.

Published In:

International Journal of Computer Networks and Communications , Vol. 4, No.5 , 130-140

(12)

Sentiment analysis of Arabic slang comments on facebook

Taysir Hassan Soliman, M.A. Elmasry, A. Hedar, M.M. Doss

Abstract:

ABSTRACT Social networks have become one of our daily life activities not only in socializing but in e-commerce, e-learning, and politics. However, they have more effect on the youth generation all over the world, specifically in the Middle East. Arabic slang language is widely used on social networks more than classical Arabic since most of the users of social networks are young-mid age. However, Arabic slang language suffers from the new expressive (opinion) words and idioms as well as the unstructured format. Mining ...

Keywords:

NULL

Published In:

International Journal of Computers & Technology , Vol. 12, No. 5 , pp. 3470-3478