

Tesis defendidas en el programa de doctorado

Tesis dirigidas por el Dr. Manuel Rosa Zurera

Doctorando: Roberto Gil Pita

Título de la tesis: “Sistemas de Clasificación de Blancos Radar mediante Métodos Estadísticos y de Inteligencia Artificial”

Fecha de lectura: 30 de noviembre de 2006

Calificación: Sobresaliente Cum Laude por unanimidad

Mención de Doctorado Europeo

Publicaciones:

Artículos en revistas internacionales

R. Gil-Pita, M. Rosa-Zurera, P. Jarabo-Amores, F. López-Ferreras, “Statistical Analysis of the Zero-Phase Method for Aligning Noisy High Resolution Radar Signals”, IET Radar, Sonar, and Navigation, vol. 3, No 1, pp. 63-69, enero de 2008. JCR 2008: 0,715, ISSN: 1751-8784.

R. Gil-Pita, Xin Yao, “Evolving edited k-nearest neighbor classifiers”, International Journal of Neural Systems (IJNS), Vol. 18, Issue 6, pp. 459-467, 2008, JCR 2009: 2.988, ISSN: 0129-0657

L. Carro-Calvo, S. Salcedo-Sanz, R. Gil-Pita, A. Portilla-Figueras, M. Rosa-Zurera, “An evolutionary multiclass algorithm for automatic classification of high range resolution radar targets”, Integrated Computer-Aided Engineering, Vol. 16, No. 1, pp. 51-60, Enero de 2009, JCR 2009: 0,617; ISSN: 1069-2509.

R. Gil-Pita, M. Rosa-Zurera, R. Vicen-Bueno, F. López-Ferreras, “Maximum Position Alignment Method for Noisy High-Resolution Radar Target Classification”, IEEE Signal Processing Letters, Vol. 15, No. 1, pp. 120-123, January 2008, JCR 2008: 1,203; ISSN: 1070-9908.

R. Gil-Pita, P. Jarabo-Amores, M. Rosa-Zurera, F. López-Ferreras, M. Utrilla-Manso, “Divide and Conquer Approach to the ATR Systems”, Pattern Recognition and Image Analysis, Vol. 15, No. 2, pp. 404-407, April 2005, (Indexada en Academic OneFile,

Compendex, Gale, Google Scholar, Inspec, OCLC, SCOPUS, Summon by Serial Solutions), ISSN: 1054-6618.

R. Gil, R. Vicen, M. Rosa, M. P. Jarabo, P. Vera y J. Curpián Título, "Ultrasonic Flow Detection Using Radial Basis Function Networks (RBFNs)", ULTRASONICS, Vol. 42, Issues 1-9, pp. 361-365, Abril 2004, JCR: 1,175 en 2004, ISSN: 0041-624X

Artículos en congresos internacionales

R. Gil-Pita, M. Rosa-Zurera, R. Vicen-Bueno, L. Álvarez, F. López-Ferreras, "Sensitivity to noise and performance of HRR-based ATR using the maximum position alignment method", Proceedings of EUSIPCO 2008, Geneve (Switzerland), Agosto 2008.

R. Gil-Pita, M. Rosa-Zurera, R. Vicen-Bueno, F. López-Ferreras, "A new algorithm for fast search of the K-nearest patterns", Proceedings of EUSIPCO 2007, Poznan (Poland), Septiembre 2007.

R. Gil-Pita, M. Rosa-Zurera, R. Vicen-Bueno, F. López-Ferreras, M. Utrilla-Manso, "Study of the performance of different alignment methods in pattern recognition", 14th (EUSIPCO) European Signal Processing Conference, 4 pages, Firenze (Italy), Septiembre 2006.

R. Gil-Pita, M. Rosa-Zurera, R. Vicen-Bueno, M. Utrilla-Manso, "Improving Alignment of Noisy Signals Using an Iterative Zero Phase Method", 13th European Signal Processing Conference (EUSIPCO), Antalya (Turkey), Septiembre 2005.

R. Gil-Pita, P. Jarabo-Amores, M. Rosa-Zurera, F. López-Ferreras, M. Utrilla-Manso, "Divide and Conquer Approach to ATR Systems", 7th International Conference on Pattern Recognition and Image Analysis: New Information Technologies, Vol. III, pp. 488-491, San Petersburgo (Rusia), Octubre 2004.

R. Gil-Pita, P. Jarabo-Amores, M. Rosa-Zurera, F. López-Ferreras, "Enlarging Training Sets for Neural Networks", 1st International Workshop on Artificial Neural Networks: Data Preparation Techniques and Application Development, pp. 25-33, Setubal (Portugal), Agosto 2004.

R. Gil, R. Vicen, M. Rosa, M.P. Jarabo, P. Vera, J. Curpián, "Ultrasonic flaw detection using Radial Basis Function Networks (RBFNs)", Ultrasonics International 2003, Granada (Spain), Junio 2003.

R. Gil-Pita, P. Jarabo-Amores, M. Rosa-Zurera, F. Lopez-Ferreras, "Improving neural classifiers for ATR using a kernel method for generating synthetic training sets", Proceedings of the 2002 12th IEEE Workshop on Neural Networks for Signal Processing, pp. 425-434, 2002.

Capítulos de libro:

Leopoldo Carro-Calvo, Sancho Salcedo-Sanz, Roberto Gil-Pita, A. Portilla-Figueras, M. Rosa-Zurera, "An Evolution of Geometric Structures Algorithm for the Automatic Classification of HRR Radar Targets", Intelligent Data Engineering and Automated Learning – IDEAL 2007 (Serie: Lecture Notes in Computer Science, vol. 4224, pp. 1151-1159, 2007), Editorial Springer Verlag, ISSN: 978-3-540-45485-4

R. Gil Pita, X. Yao, "Using a Genetic Algorithm for Editing k-Nearest Neighbor Classifiers", Intelligent Data Engineering and Automated Learning – IDEAL 2007 (Serie Lecture Notes in Computer Sciences, vol. 4881, pp. 1141-1150), Editorial Springer Verlag, ISSN: 978-3-540-77226-2

R. Gil-Pita, M. Rosa-Zurera, P. Jarabo-Amores, F. López-Ferreras, "Using Multilayer Perceptrons to Align High Range Resolution Radar Signals", Artificial Neural Networks: Formal Models and Their Applications - ICANN 2005 (Serie Lecture Notes in Computer Science, Volumen: 3697, Páginas 911-916, Septiembre de 2005), Editorial: Springer Verlag. ISBN: 978-3-540-28755-1

Doctorando: Pedro Vera Candeas

Título de la tesis: "Desarrollo de técnicas de codificación de audio basadas en modelos de señal paramétricos"

Fecha de lectura: 30 de septiembre de 2006

Calificación: Sobresaliente Cum Laude por unanimidad

Publicaciones:

Artículos en revistas internacionales

P. Vera Candeas, N. Ruiz Reyes, J.C. Cuevas Martínez, M. Rosa Zurera, F. López Ferreras, "Sinusoidal Modelling Using Perceptual Matching Pursuits in the Bark Scale for Parametric Audio Coding," IEE Proceedings on Vision, Image, and Signal Processing, vol. 153, issue 4, pp. 431-435, agosto de 2006. JCR 2006: 0,461, ISSN: 1350-245X.

P. Vera Candeas, N. Ruiz Reyes, M. Rosa Zurera, J.C. Cuevas Martínez, F. López Ferreras, "Fast implementation of an improved parametric audio coder based on a mixed dictionary," *Signal Processing*, vol. 86, issue 3, pp. 432-443, 2006. JCR 2006: 0.737. ISSN: 0165-1684.

N. Ruiz-Reyes, P. Vera-Candeas, J. Curpian-Alonso, R. Mata-Campos, JC Cuevas-Martinez, "New matching pursuit-based algorithm for SNR improvement in ultrasonic NDT," *NDT&E International*, vol. 38, issue 6, pp. 453-458, 2005. JCR 2009: 1.323. ISSN: 0963-8695.

P. Vera Candeas, N. Ruiz Reyes, M. Rosa Zurera, F. López Ferreras, D. Martínez Muñoz, "Transient Modelling by Matching Pursuits with a Wavelet Dictionary for Parametric Audio Coding," *IEEE Signal Processing Letters*, vol. 11, issue 3, pp. 349-352, 2009. JCR 2009: 0.995. ISSN: 1070-9908.

N. Ruiz Reyes, P. Vera Candeas, M. Rosa Zurera, F. López Ferreras, D. Martínez Muñoz, "New matching pursuit based sinusoidal modelling method for audio coding," *IEE Proceedings on Vision, Image, and Signal Processing*, vol. 151, issue 1, pp. 21-28, 2004. JCR 2004: 0.330. ISSN: 0027-8424.

Artículos en congresos internacionales

Manuel Rosa, Nicolás Ruiz, Pedro Vera, Enrique Alexandre, "Parametric audio coding with sparse representations", XI Symposium AES New Trends in Audio and Video (Artículo invitado), pp. 60-61, Bialystok (Poland), September 2006.

P. Vera-Candeas, N. Ruiz-Reyes, M. Rosa-Zurera, J.C. Cuevas-Martínez, J.M. García-Rubia, "Using a Sines+Wavelets Mixed Dictionary for Improving Matching Pursuit-Based Parametric Audio Coding", 13th European Signal Processing Conference (EUSIPCO), Antalya (Turkey), September 2005.

P. Vera-Candeas, N. Ruiz-Reyes, Manuel Rosa Zurera, J.C. Cuevas-Martínez, J.L. Blanco-Claraco, "A Sinusoidal Modeling Approach Based on Perceptual Matching Pursuits for Parametric Audio Coding", 118th Convention of the Audio Engineering Society, Convention paper #6377, Barcelona (Spain), May 2005.

P. Vera-Candeas, N. Ruiz-Reyes, M. Rosa-Zurera, P.J. Reche-López, J.C. Cuevas-Martínez, "Parametric audio coding based on adaptive signal models", EUSIPCO 2004, pp. 1645-1648, Viena (Austria), September 2004.

P. Vera-Candeas, N. Ruiz-Reyes, Manuel Rosa Zurera, J. Curpián-Alonso, P.J. Reche-López, "Signal-adaptive parametric modelling for high quality low bit rate audio coding", 116th Convention of the Audio Engineering Society, Convention paper #6176, Berlin (Germany), May 2004.

P. Vera-Candeas, N. Ruiz-Reyes, J. Curpián-Alonso, M. Rosa-Zurera, "A new sinusoidal modeling approach for parametric speech and audio coding", IEEE 3rd International

Symposium on Image and Signal Processing and Analysis, pp. 134-139, Rome (Italy), September 2003.

P. Vera-Candeas, N. Ruiz-Reyes, D. Martínez-Muñoz, J. Curpian-Alonso, M. Rosa-Zurera, M.J. Lucena-López, "Sinusoidal modelling with complex exponentials for speech and audio signals", Lecture Notes in Computer Science, Vol. 2652, pp. 1049-1056 (IbPRIA 2003), Mallorca (Spain), June 2003.

M. Rosa-Zurera, F. López-Ferreras, P. Vera-Candeas, N. Ruiz-Reyes, "Transient modeling using Matching Pursuit with a dictionary of wavelet functions", Second Int. Workshop on Spectral Methods and Multirate Signal Processing, pp. 77-83, Toulouse (France), September 2002.

P. Vera-Candeas, N. Ruiz-Reyes, M. Rosa-Zurera, F. López-Ferreras, D. Martínez-Muñoz, "Energy adapted matching pursuits in multi-part models for audio coding purposes", 112th Convention of the Audio Engineering Society, Convention paper #5570, Munich (Germany), May 2002.

P. Vera-Candeas, N. Ruiz-Reyes, D. Martínez-Muñoz, M. Rosa-Zurera, F. López-Ferreras, "Matching pursuit based audio coding approach", First Cost #276 Workshop on Inf. and Knowledge Management for Int. Media Communication, Leganes (Madrid, Spain), November 2001.

P. Vera-Candeas, J. Curpián, N. Ruiz-Reyes, D. Martínez-Muñoz, M. Rosa-Zurera, F. López-Ferreras, "Applications of atomic decompositions to improve the detection in noisy NDT applications", Ultrasonics International 2001, Delf (Netherlands), July 2001

M. Rosa-Zurera, N. Ruiz-Reyes, F. López-Ferreras, P. Vera-Candeas, "Avoiding overlapping in a time-varying wavelet-packet audio coder", 110th Convention of the Audio Engineering Society, Convention Paper #5301, Amsterdam (Netherlands), May 2001.

Tesis dirigidas por el Dr. Saturnino Maldonado Bascón

Doctorando: Pedro Gil Jiménez

Título de la tesis: “Estudio, diseño y optimización de técnicas de visión artificial para su aplicación a los sistemas de videovigilancia.”

Fecha de lectura: 15 de diciembre de 2009

Calificación: Sobresaliente Cum Laude por unanimidad

Publicaciones:

Artículos en revistas internacionales

H. Gómez Moreno, S. Maldonado Bascón, P. Gil Jiménez, S. Lafuente Arroyo, “Goal evaluation of segmentation algorithms for traffic sign recognition” IEEE Trans. on Intelligent Transportation Systems (ISSN: 1524-9050) (2010)

S. Maldonado Bascón, S. Lafuente Arroyo, P. Gil Jiménez, H. Gómez Moreno, F. López Ferreras, “Road-Sign detection and recognition based on support vector machines” IEEE Trans. on Intelligent Transportation Systems (ISSN: 1524-9050) (2007)

P. Gil Jiménez, H. Gómez Moreno, F. J. Acevedo Rodríguez, S. Maldonado Bascón, “Continuous variance estimation in video surveillance sequences with high illumination changes” Signal Processing (ISSN: 0165-1684) (2009)

P. Gil Jiménez, S. Maldonado Bascón, H. Gómez Moreno, S. Lafuente Arroyo, F. López Ferreras, “Traffic sign shape classification and localization based on the normalized FFT of the signature of blobs and 2D homographies” Signal Processing (ISSN: 0165-1684) (2008)

P. Gil Jiménez, S. Lafuente Arroyo, S. Maldonado Bascón, F. J. Acevedo Rodríguez, “Distance estimation from image defocus for video surveillance systems” Electronic Letters (ISSN: 0013-5194) (2004).

Artículos en congresos internacionales

P. Gil Jiménez, H. Gómez Moreno, P. Siegmann, S. Lafuente Arroyo, S. Maldonado Bascón, “Traffic sign array decomposition using support vector machines” IEEE Intelligent Vehicles Symposium. (ISBN: 978-4244-2569-3) (2008)

P. Gil Jimenez, H. Gómez Moreno, P. Siegmann, S. Lafuente Arroyo, S. Maldonado Bascón “Traffic sign shape classification based on support vector machines and the FFT of the signature of blobs” IEEE Intelligent Vehicles Symposium (ISBN: 1-4244-1068-1)

(2007).

S. Lafuente Arroyo, S. Maldonado Bascón, P. Gil Jiménez, F. J. Acevedo Rodríguez, R. López Sastre “A tracking system for automated inventory of road signs” IEEE Intelligent Vehicle Symposium (ISBN: 1-4244-1068-1) (2007)

P. Gil Jiménez, R. López Sastre, P. Siegmann, F. J. Acevedo Rodríguez, S. Maldonado Bascón, “Automatic control of video surveillance camera sabotage” Lecture Notes in Computer Science (ISSN: 0302-9743) (2007)

P. Gil Jiménez, S. Maldonado Bascón, H. Gómez Moreno, S. Lafuente Arroyo, F. J. Acevedo Rodríguez “Algebraic distance minimization of lines and ellipses for traffic sign shape localization” Lecture Notes in Computer Science (ISSN: 0302-9743) (2007)

S. Lafuente Arroyo, A. Sanchez Fernández, S. Maldonado Bascón, P. Gil Jiménez, F. J. Acevedo Rodríguez “Road sign recognition using spatial dimension reduction methods based on PCA and SVMs” Lecture Notes in Computer Science (ISSN: 0302-9743) (2007)

S. Lafuente Arroyo, S. Maldonado Bascón, P. Gil Jiménez, H. Gómez Moreno, F. López Ferrera, “Road sign tracking with a predictive filter solution” IEEE 32nd Conference on Industrial Electronics (ISBN: 1-4244-0156-4) (2006)

S. Lafuente Arroyo, P. Gil Jiménez, R. Maldonado Bascón, F. López Ferreras, S. Maldonado Bascón. Traffic sign shape classification evaluation I. SVM using distance to borders. IEEE Intelligent Vehicles Symposium (ISBN: 0-7803-8961-1) (2005)

P. Gil Jiménez, S. Lafuente Arroyo, H. Gómez Moreno, F. López Ferreras, S. Maldonado Bascón. Traffic sign shape classification evaluation II. FFT applied to the signature of blobs. IEEE Intelligent Vehicles Symposium (ISBN: 0-7803-8961-1) (2005).

P. Gil Jiménez, S. Lafuente Arroyo, S. Maldonado Bascón, H. Gómez Moreno. Shape classification algorithm using support vector machines for traffic sign recognition. Lecture Notes in Computer Science (ISSN: 0302-9743) (2005).

P. Gil Jiménez, S. Maldonado Bascón, R. Gil Pita, H. Gómez Moreno. Background pixel classification for motion detection in video image sequences. Lecture Notes in Computer Science (ISSN: 0302-9743) (2003)

Doctorando: Francisco Javier Acevedo Rodríguez

Título de la tesis: “Técnicas de clasificación, optimización y procesado de señal aplicadas a sistemas basados en sensores de gases y líquidos.”

Fecha de lectura: 1 de julio de 2009

Calificación: Sobresaliente Cum Laude por unanimidad

Publicaciones:

Artículos en revistas internacionales

S. Maldonado Bascón, F. J. Acevedo Rodríguez, S. Lafuente Arroyo, A. Fernández Caballero, F. López Ferreras, "An Optimization on Pictogram Identification for the Road-Sign Recognition Task using SVMs" *Computer Vision and Image Understanding* (ISSN: 1077-3142). (2010)

F. J. Acevedo Rodríguez, J. Jiménez, S. Maldonado Bascón, A. Narvaez, E. Domínguez, "Nonparametric multivariate regression methods to determine dexamethasone concentration using ELISA measurements" *Chemometrics and Intelligent Laboratory Systems* (ISSN: 0169-7439) (2010)

F. J. Acevedo Rodríguez, R. J. López Sastre, P. Gil Jiménez, N. Ruiz Reyes, S. Maldonado Bascón, "Fixed kernel regression for voltammogram feature extraction" *Measurement, science and technology* (ISSN: 0957-0233) (2009)

F. J. Acevedo Rodríguez, S. Maldonado Bascón, S. Lafuente Arroyo, P. Siegmann, F. López Ferreras, "Computational load reduction in decision functions using support vector machines" *Signal Processing* (ISSN: 0165-1684) (2009)

P. Siegmann, F. J. Acevedo Rodríguez, K. Siegmann, S. Maldonado Bascón, "Probabilistic Source attribution model for nanoparticles in air suspension applied on the main roads of Madrid and Mexico City" *Atmospheric Environment* (ISSN: 1352-2310) (2008)

F. J. Acevedo Rodríguez, S. Maldonado Bascón, E. Domínguez, A. Narváez, F. López Ferreras, "Probabilistic support vector machines for multi-class alcohol identification" *Sensors and actuators B. Chemical* (ISSN: 0925-4005) (2007)

F. J. Acevedo Rodríguez, J. Jiménez, S. Maldonado Bascón, E. Domínguez, A. Narváez, "Classification of wines produced in specific regions by UV-Visible Spectroscopy combined with support vector machines" *Journal of Agricultural and food analysis* (ISSN: 0021-8561) (2007)

Artículos en congresos internacionales

F. J. Acevedo Rodríguez, S. Maldonado Bascón, P. Siegmann, S. Lafuente Arroyo, P. Gil Jiménez. Multiclass support vector machines based on arranged decision graphs and particle swarm optimization for model selection. *Lecture Notes in Computer Science* (ISSN: 0302-9743) (2007)

F. J. Acevedo Rodríguez, S. Maldonado Bascón, P. Siegmann, S. Lafuente Arroyo, P. Gil Jiménez. Tuning L1-SVM hiperparameters with modified radius margin bounds and simulated annealing. Lecture Notes in Computer Science (ISSN: 0302-9743) (2007)

F. J. Acevedo Rodríguez, S. Maldonado Bascón, S. Lafuente Arroyo, H. Gómez Moreno, P. Gil Jiménez. Model Selection for support vector machines using ant colony optimization in an electronic nose application. Lecture Notes in Computer Science (ISSN: 0302-9743)(2006)

Doctorando: Roberto Javier López Sastre

Título de la tesis: “Visual Vocabularies for Category-level Object Recognition.”

Fecha de lectura: 1 de Mayo de 2010

Calificación: Sobresaliente Cum Laude por unanimidad

Mención de Doctorado Europeo

Publicaciones:

Artículos en revistas internacionales

R. J. López-Sastre, T. Tuytelaars, F. J. Acevedo-Rodríguez, S. Maldonado-Bascón. “Towards a more Discriminative and Semantic Visual Vocabulary, Computer Vision and Image Understanding”, in press, (ISSN:0957-4174) (2011) JCR: 1.676.

S. Lafuente-Arroyo, S. Salcedo-Sanz, S. Maldonado-Bascón, J.A. Portilla-Figueras, R. J. López-Sastre. “A decision support system for the automatic management of keep-clear signs based on support vector machines and geographic information systems” Expert Systems with Applications, vol. 37, pp. 767–773, 2010 (ISSN: 0957-4174) (2010) JCR: 2.908.

P. Siegmann, R. J. López-Sastre, P. Gil-Jiménez, S. Lafuente-Arroyo, S. Maldonado-Bascón, “Fundamentals in luminance and retroreflectivity measurements of vertical traffic signs using a color digital camera” IEEE Transactions on Instrumentation and Measurement, vol. 57, no. 3, pp. 607-615, (ISSN: 0018-9456) (2008) JCR: 1.025.

Artículos en congresos internacionales

R. Javier López Sastre, T. Tuytelaars, S. Maldonado Bascón, “Class representative visual

words for category-level object recognition” Lecture Notes in Computer Science (ISSN: 0302-9743) (2009)

R. López Sastre, S. Lafuente Arroyo, P. Gil Jiménez, P. Siegmann, S. Maldonado Bascón “Road sign analysis using multisensory data” Lecture Notes in Computer Science (ISSN: 0302-9743) (2007)

R. López Sastre, P. Gil Jiménez, F. J. Acevedo Rodríguez, S. Maldonado Bascón, “Computer algebra algorithms applied to computer vision in a parking management system” IEEE ISIE (ISBN: 978-1-4244-0754-5) (2007)

A. Vázquez-Reina, R. J. López-Sastre, P. Siegmann, S. Lafuente-Arroyo, H. Gómez-Moreno “An Approach to the Recognition of Informational Traffic Signs Based on 2-D Homography and SVMs” ACVIS (ISBN:1-4244-1068-1) (2006)

R. J. López-Sastre, S. Lafuente-Arroyo, P. Gil-Jiménez, “Adaptive Traffic Road Sign Panels Text Extraction” ISPRA (ISBN:960-8457-41-6)(2006)

R. J. López-Sastre, S. Lafuente-Arroyo, P. Siegmann, P. Gil-Jiménez, A. Vázquez-Reina, “Recognition of Mandatory Traffic Signs using the Hausdorff Distance” ISCGAV (ISBN:960-8457-35-1) (2005)

Tesis dirigidas por el Dr. Fernando Cruz Roldán

Doctorando: Manuel Blanco Velasco

Título de la tesis: “Compresión de electrocardiogramas mediante bancos de filtros coseno modulado y análisis multirresolución.”

Fecha de lectura: 22 de diciembre de 2004

Calificación: Sobresaliente Cum Laude por unanimidad

Publicaciones:

Artículos en revistas internacionales

M. Blanco-Velasco, F. Cruz-Roldán, J. I. Godino and K. E. Barner, “Wavelet packets feasibility study for the design of an ECG compressor” IEEE Transactions on Biomedical Engineering, vol. 54, no. 4, pp. 766-769, ISSN 0018-9294, April 2007, JCR 2006: 2.302.

M. Blanco-Velasco, Fernando Cruz-Roldán, J.I. Godino, J. Blanco, C. Armiens and F. López-Ferreras, "On the use of PRD and CR parameters for ECG compression" Medical Engineering & Physics, vol. 27, no. 9, pp. 798-802, ISSN: 1350-4533, Nov 2005, JCR 2005: 1.151.

M. Blanco, F. Cruz-Roldán, J. I. Godino and K. E. Barner, "ECG compression with retrieved quality guaranteed" Electronics letters, Vol. 40, no. 23, pp. 1466-1467, 2004. ISSN: 0013-5194, JCR 2004: 0.968.

M. Blanco-Velasco, Fernando Cruz-Roldán, F. López-Ferreras, A.M. Bravo and D. Martínez, "A low computational complexity algorithm for ECG signal compression" Medical Engineering and Physics, vol. 26, no. 7, pp. 553-568, ISSN 1350-4533, September 2004, JCR 2004: 1.109.

Artículos en congresos internacionales

M. Blanco-Velasco, F. Cruz Roldán, J. I. Godino and K. Barner, "Efficient ECG Compression based on M-channel maximally decimated filter banks" XIII EUROPEAN SIGNAL PROCESSING CONFERENCE (EUSIPCO2005) ISBN: 975-00188-0-X, August 2005.

M. Blanco-Velasco, F. Cruz Roldán, F. López and P. Martín, "Comparison of wavelet packets with cosine-modulated pseudo-QMF bank for ECG compression" 23rd ANNUAL INTERNATIONAL CONFERENCE OF THE IEEE ENGINEERING IN MEDICINE AND BIOLOGY SOCIETY ISBN: 0-7803-7213-1, October 2001.

M. Blanco-Velasco, F. López- Ferreras, M. Rosa-Zurera and F. Cruz-Roldán, "Periodic wavelet packet implementation applied to ECG signals coding," Proceedings of the 4th World Multi-Conference on Circuits, Systems, Communications and Computers, 2000, CD-ROM ISBN: 960-8052-19-X

M. Blanco-Velasco, F. López- Ferreras, M. Rosa-Zurera and F. Cruz-Roldán, "ECG transform encoder implementation by using periodic wavelet packets" Proceedings of TELECOM'2000, 2000, CD-ROM ISBN: 84-8138-393-7.

Doctorando: Pilar Martín Martín

Título de la tesis: "Diseño de transmultiplexores basados en bancos de filtros modulados con aplicación a sistemas de comunicación."

Fecha de lectura: 26 de Febrero de 2007

Calificación: Sobresaliente Cum Laude por unanimidad

Mención de Doctorado Europeo

Publicaciones:

Artículos en revistas internacionales

P. Martín-Martín, R. Bregovic, A. Martín, F. Cruz-Roldán and Tapio Saramäki, "A generalized window approach for designing transmultiplexers," IEEE Transactions on Circuits and Systems-I, vol. 55, no. 9, pp. 2696-2706, ISSN 1057-7122, 2008. JCR 2006: 1.139.

F. Cruz-Roldán, Á. M. Bravo-Santos, P. Martín-Martín and R. Jiménez-Martínez, "Design of multi-channel near-perfect-reconstruction transmultiplexers using cosine-modulated filter banks " Signal Processing, vol. 83, no. 5, 2003, pp. 1079-1091.

F. Cruz-Roldán, P. Amo-López, P. Martín-Martín and F. López-Ferreras "Alternating Analysis and Synthesis Filters: A New Pseudo-QMF Bank" Digital Signal Processing, vol. 11, no. 4, 2001, pp. 329-345.

Artículos en congresos internacionales

P. Martín-Martín, F. Cruz-Roldán and T. Saramäki, "Optimized transmultiplexers for multirate systems" IEEE INT. SYMPOSIUM ON CIRCUITS AND SYSTEMS (ISCAS 2005) ISBN: 0-7803-8834-8, May 2005

P. Martín-Martín, F. Cruz Roldána and T. Saramäki, "A novel approach for designing cosine-modulated transceivers" 4th INT. SYMPOSIUM ON IMAGE AND SIGNAL PROCESSING AND ANALYSIS (ISPA 2005) ISBN: 953-184-090-3, September 2005

P. Martín-Martín, F. Cruz-Roldán and T. Saramäki, "A new window for the design of cosine-modulated multirate systems" IEEE INT. SYMPOSIUM ON CIRCUITS AND SYSTEMS (ISCAS 2004) ISBN: 0-7803-8252-8, Vol. III, pp. 529-532, May 2004

P. Martín-Martín, F. Cruz-Roldán, F. López and M. Utrilla-Manso, "Distortion analysis in a new transmultiplexer for xDSL applications" GLOBAL TELECOMMUNICATIONS CONFERENCE, 2001 (GLOBECOM'01)(ISBN 0-7803-7206-9). pp. 227-230, Vol. I, November 2001

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P. Martín Martín, F. Cruz Roldán, F. López-Ferreras, M. Blanco and J. Piñeiro, "A new transmultiplexer approach for xDSL applications" INTERNATIONAL TICSP WORKSHOP

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Doctorando: Miguel Ángel López Carmona

Título de la tesis: “Estrategias de negociación automática basadas en restricciones difusas sobre sistemas multiagente.”

Fecha de lectura: 26 de Septiembre de 2006

Calificación: Sobresaliente Cum Laude por unanimidad

Publicaciones:

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Doctorando: Jose Ángel Fernández Prieto

Título de la tesis: “Optimización evolutiva de los parámetros de control de un algoritmo genético.”

Fecha de lectura: 23 de Noviembre de 2009

Calificación: Sobresaliente Cum Laude por unanimidad

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Joaquin Cañada Bago, José Ángel Fernández Prieto, Manuel Ángel Gadeo Martos, Juan Ramón Velasco. *A New Collaborative Knowledge-Based Approach for Wireless Sensor Networks*. SENSORS. Vol. 10 – Issue 6, pp. 6044 - 6062. 2010. ISSN 1424-8220.

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Doctorando: Manuel Ángel Gadeo Martos

Título de la tesis: “Estrategias evolutivas para la adquisición de conocimiento en controladores borrosos temporales difuminados, aplicadas al encaminamiento adaptativo en redes de comunicaciones.”

Fecha de lectura: 07 de Julio de 2009

Calificación: Sobresaliente Cum Laude por unanimidad

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Doctorando: Manuel Prieto Mateo

Título de la tesis: “Aportaciones al Diseño de Sistemas de Control de Instrumentación Científica Embarcada en Satélite.”

Fecha de lectura: 20 de Abril de 2005

Calificación: Sobresaliente Cum Laude por unanimidad

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Doctorando: María Dolores Rodríguez Moreno

Título de la tesis: “Representación y Planificación de Tareas con Tiempo y Recursos.”

Fecha de lectura: 29 de marzo de 2004

Calificación: Sobresaliente Cum Laude por unanimidad

Mención de Doctorado Europeo

Publicaciones:

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Tesis dirigidas por el Dr. Francisco López Ferreras

Doctorando: María Pilar Jarabo Amores

Título de la tesis: "Desarrollo y Optimización de un Detector Neuronal de Blancos Radar en Presencia de Interferencia Aditiva"

Fecha de lectura: 31 de Enero de 2005

Calificación: Sobresaliente Cum Laude por unanimidad

Publicaciones:

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Doctorando: Manuel Utrilla Manso

Título de la tesis: "Análisis y estudio de los problemas de precisión finita en aplicaciones de estructuras avanzadas de filtros digitales"

Fecha de lectura: 22 de febrero de 2007.

Calificación: Cum Laude por unanimidad

Publicaciones:

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Doctorando: Pablo Luis López Espí

Título de la tesis: "Optimización de un algoritmo para la estimación de indicadores de calidad en el medio hídrico y la aplicación al sistema de medidas y comunicaciones asociado"

Fecha de lectura: 26 de Septiembre de 2008

Calificación: Sobresaliente Cum Laude por unanimidad

Publicaciones:

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Tesis dirigidas por el Dr. Sebastián Sánchez Prieto

Doctorando: Mariano Gómez Plaza

Título de la tesis: “Planificación óptima de movimiento y aprendizaje por refuerzo en vehículos móviles autónomos”

Fecha de lectura: 10 de diciembre de 2009

Calificación: Cum Laude por unanimidad

Publicaciones:

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Tesis dirigidas por el Dr. Sancho Salcedo-Sanz

Doctorando: Emilio Gedeón Ortiz García

Título de la tesis: “Nuevas Técnicas de Selección de Parámetros en Máquinas de Vectores Soporte para Regresión”

Fecha de lectura: 8 de julio de 2010

Calificación: Sobreliente Cum Laude por unanimidad

Mención de doctorado Europeo

Publicaciones:

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