

**Curriculum Vitae**  
**Dr. George A. Papakostas**

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## **1. PERSONAL INFORMATION**

Name: George  
Surname: Papakostas  
Middle Name: Athanasios  
Year of Birth: 1975  
Place of Birth: Naoussa – Imathias, Greece  
Country of Citizenship: Greece  
Home Address: Ilia Geraga 22, Hrysa – Xanthi  
Phone Number: 2541072703 – Mobile: 6974119270  
Marital Status: Married - 1 child  
e-mail: gpapak@teikav.edu.gr

## **2. EDUCATION**

2007 Ph.D. in Computer Science, Democritus University of Thrace (DUTH), Department of Electrical and Computer Engineering. Thesis title: ***“Development of Intelligent Neural Classifiers for Computer Vision Applications”***.  
2002 M.S.Eng. in Computer Science, Democritus University of Thrace (DUTH), Department of Electrical and Computer Engineering. Thesis title: ***“Wavelet-based Feature Extraction for Pattern Recognition Applications”***.  
1999 B.S.Eng. in Electrical and Computer Engineering, Democritus University of Thrace (DUTH), Department of Electrical and Computer Engineering. Thesis title: ***“Development of a Computer Vision Software Platform”***.  
1993 High School Degree, 4<sup>th</sup> High School of Harilaou in Thessaloniki.

## **3. COMPUTER SKILLS**

<b>Operating Systems</b>	<ul style="list-style-type: none"><li>• MS-DOS</li><li>• Windows</li><li>• Linux (Ubuntu, Fedora)</li></ul>
<b>Office Software</b>	<ul style="list-style-type: none"><li>• Microsoft Office, LaTeX</li></ul>
<b>Software Development Languages</b>	<ul style="list-style-type: none"><li>• GPU Programming - CUDA</li><li>• C, Pascal, Delphi, Builder C++, Assembly</li><li>• Matlab Toolboxes: Image, Signal Processing, Genetic Algorithms, Neural Networks, LMI, Wavelet, Fuzzy</li></ul>
<b>Embedded Software Development Tools</b>	<ul style="list-style-type: none"><li>• Code Composer Studio 1.20 για την πλατφόρμα EVM TMS320C6201, DSP Programming</li><li>• AVR Microcontroller Programming</li><li>• Motorola ColdFire Microprocessors Programming</li></ul>

#### **4. PROFESSIONAL EXPERIENCE**

<b>DURATION</b>	<b>EMPLOYER</b>	<b>POSITION</b>
10/2011 – 05/2012	INTRALOT S.A.	Senior Software Engineer.
02/2009 – 07/2009	INTRALOT S.A.	Senior Software Engineer.
01/2000 – 02/2009	INTRACOM TELECOM S.A.	Senior Software Engineer.
07/1999 – 09/1999	ANADELTA SOFTWARE	Internship as Electrical and Computer Engineer.
07/1998 – 09/1998	COCO-MAT	Internship as Electrical and Computer Engineer.
07/1997 – 09/1997	PUBLIC POWER CORPORATION S.A.	Internship as Electrical and Computer Engineer.

#### **DETAILED PROFESSIONAL EXPERIENCE IN INTRACOM TELECOM S.A.**

<b>Project</b>	IBAS MSAN
<b>Duration</b>	21/06/2007 – 30/01/2009
<b>Field of Expertise</b>	Telecommunication Systems Software
<b>Position</b>	Team Leader
<b>Task</b>	Software Development
<b>Link</b>	<a href="http://www.intracom-telecom.com/en/products/telecom_products/wireline_access/ibas.htm">http://www.intracom-telecom.com/en/products/telecom_products/wireline_access/ibas.htm</a> .
<b>Project</b>	Microlink – IDR140M
<b>Duration</b>	01/12/2006 – 20/06/2007
<b>Field of Expertise</b>	Wireless Transmission Systems
<b>Position</b>	Staff SW Engineer / Applications Consultant
<b>Task</b>	Software Development
<b>Link</b>	<a href="http://www.intracom-telecom.com/en/products/telecom_products/wireless_transmission/microlink_family.htm">http://www.intracom-telecom.com/en/products/telecom_products/wireless_transmission/microlink_family.htm</a>
<b>Project</b>	FLEXACCESS
<b>Duration</b>	01/03/2005 – 13/02/2006
<b>Field of Expertise</b>	Telecommunication Systems Software
<b>Position</b>	Team Leader
<b>Task</b>	Software Development
<b>Link</b>	<a href="http://www.conklin-intracom.com/products/accessproducts">http://www.conklin-intracom.com/products/accessproducts</a>
<b>Project</b>	FASTMUX 2004 DSLAM
<b>Duration</b>	01/11/2004 – 28/02/2005
<b>Field of Expertise</b>	Telecommunication Systems Software
<b>Position</b>	Staff SW Engineer / Applications Consultant
<b>Task</b>	Software Development
<b>Link</b>	<a href="http://www.intracom-telecom.com/en/products/telecom_products/wireline_access/fastmux_2004.htm">http://www.intracom-telecom.com/en/products/telecom_products/wireline_access/fastmux_2004.htm</a>

<b>Project</b>	FASTMUX 2003 DSLAM
<b>Duration</b>	01/04/2003 – 31/10/2004
<b>Field of Expertise</b>	Telecommunication Systems Software
<b>Position</b>	Team Leader
<b>Task</b>	Software Development
<b>Link</b>	<a href="http://www.intracom-telecom.com/en/products/telecom_products/wireline_access/fastmux_2003.htm">http://www.intracom-telecom.com/en/products/telecom_products/wireline_access/fastmux_2003.htm</a>
<b>Project</b>	FASTMUX 2000 Mini DSLAM – List8s
<b>Duration</b>	01/04/2002 – 31/03/2003
<b>Field of Expertise</b>	Telecommunication Systems Software
<b>Position</b>	SW Engineer / Applications Consultant
<b>Task</b>	Software Development
<b>Link</b>	<a href="http://www.intracom-telecom.com/downloads/pdf/products/access_netw/fastmux2000_datasheet.pdf">http://www.intracom-telecom.com/downloads/pdf/products/access_netw/fastmux2000_datasheet.pdf</a>
<b>Project</b>	DSP Modem
<b>Duration</b>	23/01/2001 – 31/03/2002
<b>Field of Expertise</b>	INTRACOM FUNDED R & D PROJECTS
<b>Position</b>	Researcher
<b>Task</b>	Software Development
<b>Link</b>	

## **5. TEACHING EXPERIENCE**

<b>DURATION</b>	<b>EMPLOYER</b>	<b>DESCRIPTION</b>
2006 - 2015	Technological Educational Institute (TEI) of Eastern Macedonia & Thrace / Department of Computer & Informatics Engineering	<b>Position:</b> Adjunct Assistant Professor <b>Lessons:</b> <ol style="list-style-type: none"><li>1) Introduction to Software Engineering</li><li>2) Software Project Management</li><li>3) Intelligent Systems</li><li>4) Data Structures and Algorithms</li><li>5) Operating Systems</li><li>6) Automatic Control</li><li>7) Computer Vision</li><li>8) Parallel and Distributed Computing</li></ol>
2007 –2009	Democritus University of Thrace (DUTH) / Department of Production and Management Engineering	<b>Position:</b> Lecturer (407/80) <b>Lessons:</b> <ol style="list-style-type: none"><li>1) Data structures</li><li>2) Structured Programming</li><li>3) Computer-Aided Design (CAD)</li><li>4) Electronics</li></ol>

2000 – 2003	Democritus University of Thrace (DUTH) / Department of Computer and Electrical Engineering	<b>Position:</b> Teaching Assistant <b>Lessons:</b> 1) Robotics 2) Computational Intelligence 3) Control Systems I 4) Control Systems II
2002 - 2005	I.E.K. Xinis	<b>Position:</b> Informatics Teacher (ECDL) 1122 hours

## **6. RESEARCH PROJECTS**

<b>DURATION</b>	<b>RESEARCH PROJECT</b>
01/05/2014 – 30/09/2015	Thalis: “Study and Forecasting of Economic Data using Machine Learning Methods”. Co-funded by the European Union (European Social Fund) and national resources.
01/01/2014 – 31/12/2014	Thalis : “NANOCAPILLARY MIS 375233” research project, co-funded by the European Union (European Social Fund) and national resources.
01/11/2009 – 30/11/2010	FAST, Marie Curie RTN, EU program. ”Advanced Signal-Processing for Ultra-Fast Magnetic Resonance Spectroscopic Imaging, and Training”, (contract number MRTN-CT-2006-035801).
15/05/2002 – 14/05/2003	PRENED’99 national program. “Development of Control Techniques for Biotechnological Systems”.
15/05/2001 – 14/05/2002	PRENED’99 national program. “Study and Development of Neural Networks for the Control of Biotechnological Systems”.
01/03/2000 – 31/12/2000	TSMEDE national program. “Comparative Analysis of Morphological and Coordinate Logic Filters and their Development into an Image Processing Software Platform.

## **7. THESES (Co -) SUPERVISION**

### **Department of Production and Management Engineering - DUTH**

#### Ph.D. Theses

- [1] E. Karakasis, “Efficient Algorithms for Image Moments Computation”, 2013.
- [2] S. Tsougenis, “Image Watermarking by the Method of Moments”, 2013.

#### Bachelor’s Theses

- [1] D. Patsios, "GA-based Hybrid Photovoltaic/Wind Generator Systems Sizing", 2013.
- [2] G. Michailidis, "Distorted Image Recovery Using Watermarking Techniques", 2013.
- [3] I. Dimitriadis, "Invariant Sound Watermarking by Using Moment Functions", 2013.
- [4] P. Fokas, "Aluminum Profile Recognition by Using Computer Vision Techniques", 2013.
- [5] M. Tzakris, "Micro-crack Detection in Industry of Photovoltaic Panels", 2012.
- [6] A. Polydoros, "Learning Fuzzy Cognitive Maps by Using Hebbian Learning Algorithms in System Modeling and Pattern Recognition", 2011.
- [7] F. Kotoulas, "Facial Expression Recognition by the Method of Moments", 2011.
- [8] S. Lavasa, "Fuzzy Cognitive Maps in Function Approximation and Pattern Recognition Applications", 2010.
- [9] N. Kosmidis, "Fuzzy Cognitive Maps in Pattern Recognition Applications", 2009.
- [10] S. Tsougenis, "Image Watermarking by Using Moments", 2008.

#### **Department of Electrical and Computer Engineering - DUTH**

##### Master's Theses

- [1] S. Samartzidis, "Genetic Algorithms with Adjustable Operators and Their Application to Neural Network Training", 2009.

##### Bachelor's Theses

- [1] I. Papadopoulos, "Comparative Analysis of Different Moment Families in Image Processing", 2010.
- [2] N. Marinidis, "Techniques for Neural Networks Training", 2006.
- [3] S. Samartzidis, "Neural Networks Training by Using Genetic Algorithms", 2005.
- [4] I. Antonakis, "Control of Systems with Uncertainties by Using Genetic Algorithms", 2004.
- [5] A. Kyriazis, "Development of Neural Classifiers by Using Wavelets for Pattern Recognition Applications", 2003.
- [6] D. Pantazopoulos, "Neural Multi-Classifiers and Applications", 2002.

#### **Department of Computer and Informatics Engineering –Eastern Macedonia & Thrace Institute of Technology**

##### Bachelor's Theses

- [1] I. Laspias and A. Karatzoglidis, "Development of a Plant Leaves Dataset", 2015.
- [2] N. Tolakis and A. Begnis, "Medical Image Fusion", 2014.
- [3] S. Nota, "Painter identification using orthogonal moments", 2014.
- [4] E. Misdrakou and I. Livaditis, "Development of an online library", 2014.
- [5] S. Aidinidis and F. Karatziolis, "Ear Detection in Static Images", 2014.
- [6] D. Isaakidis, "Monitoring and recording system of a computer network problems and changes", 2014.
- [7] K. Koutronasios, "GPU-based Particle Swarm Optimization", 2014.
- [8] M. Koutante and T. Dimitrakoudis, "Image Compression Using Orthogonal Moments Based on JPEG Standard", 2014.
- [9] I. Mpiliouri, "Image Quality Assessment by Using Neural Networks", 2014.
- [10] S. Georgiadis and D. Mazarakis, "Image Segmentation by Using Fuzzy Logic", 2014.
- [11] I. Toliopoulos, "Comparative Analysis of Image Quality Assessment Methods", 2013.
- [12] N. Sidiropoulos, "Development of Object Shape Descriptors for Pattern Recognition Applications", 2013.
- [13] A. Konstantopoulos and G. Koutalakidis, "Computer Vision Based Greek Traffic Sign Recognition", 2013.
- [14] C. Panayiotou, "Duplicate Region Detection in Images by Using DCT Transform", 2013.
- [15] I. Papadimitriou and P. Simoni, "A Study on Image Color Embedding and Recovery Methods", 2013.
- [16] K. Georgiadis, "Face Detection Methods", 2011.

- [17] I. Lazakis, G. Theocharidis, “Development of a Human Identification System by Using Fingerprints”, in progress.
- [18] G. Antonopoulos and N. Georgitsopoulos, “Development of Simulation Platform of Canal Boat and its Control by Using Wireless Communication Protocol”, 2009.

## **8. PUBLICATIONS**

**Research Fields:** *Computational Intelligence, Computer Vision, Pattern Recognition, Biometrics, Parallel & Distributed Computing, Evolutionary Computation, Image/Signal Processing, Medical Image Analysis*

### **A. BOOK CHAPTERS**

- A.13** G.A. Papakostas, D.A. Karras, B.G. Mertzios, D. van Ormondt, and D. Graveron-Demilly, “**Two-stage Evolutionary Quantification of in vivo MRS Metabolites**”, in *Emerging Trends in Computational Biology, Bioinformatics, and Systems Biology*, Q.N. Tran and H. R. Arabnia (Eds.), Elsevier/MK, **in press**.
- A.12** G.A. Papakostas, “**Improving the Recognition Performance of Moment Features by Selection**”, in *Feature Selection for Data and Pattern Recognition*, U. Stanczyk and L.C. Jain (Eds.), Springer, Studies in Computational Intelligence, vol. 584, pp. 305-327, 2015.
- A.11** E.D. Tsougenis, G.A. Papakostas and D.E. Koulouriotis, “**Moment-based Image Watermarking: Principles, Perspectives and Challenges**”, *Encyclopedia of Information Science and Technology*, (3rd Ed) Edited by Mehdi Khosrow-Pour, IGI Global, IGI Global, pp. 7202-7211, 2015. doi:10.4018/978-1-4666-5888-2.ch709.
- A.10** E.D. Tsougenis, G.A. Papakostas, “**Should We Consider Adaptivity in Moment-based Image Watermarking ?**”, in *Moments and Moment Invariants - Theory and Applications*, G.A. Papakostas (Ed.), Science Gate Publishing, GCSR vol. 1, pp. 253-274, 2014. doi: 10.15579/gcsr.vol1.ch11.
- A.9** G.A. Papakostas, “**Over 50 Years of Moments and Moment Invariants**”, in *Moments and Moment Invariants - Theory and Applications*, G.A. Papakostas (Ed.), Science Gate Publishing, GCSR vol. 1, pp. 3-32, 2014. doi: 10.15579/gcsr.vol1.ch1.
- A.8** E.G. Karakasis, G.A. Papakostas and D.E. Koulouriotis, “**Pattern Recognition Using Quaternion Color Moments**”, Chapter 5, pp. 153-176, in *Pattern Recognition: Practices, Perspectives and Challenges*, D.B. Vincent (Ed.), Nova Publishers, ISBN 978-1-62618-198-4, 2013.

- A.7 G.A. Papakostas, D.E. Koulouriotis and V.D. Tourassis, “**Feature Extraction Based on Wavelet Moments and Moment Invariants in Machine Vision Systems**”, in *Human-Centric Machine Vision*, F. Solari (Ed.), InTech, ISBN 978-953-51-0563-3, 2012.
- A.6 G.A. Papakostas, E.G. Karakasis and D.E. Koulouriotis, “**Orthogonal Image Moment Invariants: Highly Discriminative Features for Pattern Recognition Applications**”, Chapter 3, pp. 34-52, in *Cross-Disciplinary Applications of Artificial Intelligence and Pattern Recognition: Advancing Technologies*, Vijay Kumar Mago and Nitin Bhatia (Eds.), IGI Global, ISBN 978-1613504291, 2012.
- A.5 G.A. Papakostas, D.E. Koulouriotis, A.S. Polydoros and V.D. Tourassis, “**Evolutionary Feature Subset Selection for Pattern Recognition Applications**”, Chapter 23, pp. 443-458, in *Evolutionary Algorithms*, Eisuke Kita (Ed.), InTech, ISBN 978-953-307-171-8, 2011.
- A.4 G.A. Papakostas, D.E. Koulouriotis, E.G. Karakasis and V.D. Tourassis, “**A General Framework for Computation of Biomedical Image Moments**”, Chapter 23, pp. 449-460, in *Biomedical Engineering, Trends in Electronics, Communications and Software*, Anthony N. Laskovski (Ed.), InTech, ISBN 978-953-307-475-7, 2011.
- A.3 G.A. Papakostas and D.E. Koulouriotis, “**Classifying Patterns Using Fuzzy Cognitive Maps**” in *Fuzzy Cognitive Maps: Advances in Theory, Methodologies, Tools and Applications*, M. Glykas (Ed.), Springer, ISBN: 978-3-642-03219-6, 2010.  
(4 ετερο-αναφορές)
- A.2 G.A. Papakostas, D.E. Koulouriotis and E.G. Karakasis, “**Efficient 2-D DCT Computation from an Image Representation Point of View**”, Chapter 2, pp. 21-34, in *Image Processing*, InTech, ISBN 978-3-902613-44-8, 2009.
- A.1 G. Papakostas, D.A. Karras, Y. Boutalis, B.G. Mertzios, “**Efficient Computation of Moment Descriptors**”, in *Recent Advances in Applied Signals, Systems and Image Processing*, D.A. Karras (Ed.), Springer, ISBN: 978-1-4020-8169-9, 2009.

## **B. THESES**

- B.3 G.A. Papakostas, “**Development of Intelligent Neural Classifiers for Computer Vision Applications**”, PhD Thesis, Democritus University of Thrace, Department of Electrical and Computer Engineering, 2007. Supervisor: Ass. Professor Y.S. Boutalis.



- B.2** G.A. Papakostas, “**Wavelet-based Feature Extraction for Pattern Recognition Applications**”, Master’s Thesis, Democritus University of Thrace, Department of Electrical and Computer Engineering, 2002. Supervisor: Professor B.G. Mertzios.
- B.1** G.A. Papakostas, “**Development of a Computer Vision Software Platform**”, Bachelor’s Thesis, Democritus University of Thrace, Department of Electrical and Computer Engineering, 1999. Supervisor: Ass. Professor Y.S. Boutalis.

### **C. JOURNAL PUBLICATIONS**

- C.33** V.G. Kaburlasos and G.A. Papakostas, “**Learning Distributions of Image Features by Interactive Fuzzy Lattice Reasoning (FLR) in Pattern Recognition Applications**”, *IEEE Computational Intelligence Magazine*, [in press](#).
- C.32** E.D. Tsougenis, G.A. Papakostas and D.E. Koulouriotis, “**Image Watermarking via Separable Moments**”, *Multimedia Tools and Applications*, [in press](#).
- C.31** G.A. Papakostas, A. Savio, M. Grana and V.G. Kaburlasos, “**A Lattice Computing Approach to Alzheimer’s Disease Computer Assisted Diagnosis Based on MRI Data**”, *Neurocomputing*, vol. 150, Part A, pp. 37-42, 2015.
- C.30** E.D. Tsougenis, G.A. Papakostas, D.E. Koulouriotis and E.G. Karakasis, “**Adaptive Color Image Watermarking by the use of Quaternion Image Moments**”, *Expert Systems With Applications*, vol. 41, no. 14, pp. 6408-6418, 2014.
- C.29** S.E. Papadakis, V.G. Kaburlasos and G.A. Papakostas, “**Two Fuzzy Lattice Reasoning (FLR) Classifiers and Their Application for Human Facial Expression Recognition**”, *Journal of Multi-Valued Logic and Soft Computing*, vol. 22, no. 4-6, pp. 561-579, 2014.
- C.28** E.G. Karakasis, G.A. Papakostas, D.E. Koulouriotis and V.D. Tourassis, “**A Unified Methodology for Computing Accurate Quaternion Color Moments and Moment Invariants**”, *IEEE Transactions on Image Processing*, vol. 23, no. 2, pp. 596-611, 2014.
- C.27** G.A. Papakostas, E.D. Tsougenis, D.E. Koulouriotis and V.D. Tourassis, “**Moment-based Local Image Watermarking via Genetic Optimization**”, *Applied Mathematics and Computation*, vol. 227, pp. 222-236, 2014.
- C.26** V.G. Kaburlasos, S.E. Papadakis and G.A. Papakostas, “**A Lattice Computing Extension of the FAM Neural Classifier for Human Facial Expression Recognition**”, *IEEE Transactions on Neural Networks & Learning Systems*, vol. 24, no. 10, pp. 1526 - 1538, 2013.

- C.25 G.A. Papakostas, A.G. Hatzimichailidis and V.G. Kaburlasos, “**Distance and similarity measures between intuitionistic fuzzy sets: A comparative analysis from a pattern recognition point of view**”, *Pattern Recognition Letters*, vol. 34, no. 14, pp. 1609-1622, 2013.
- C.24 E.D. Tsougenis, G.A. Papakostas, D.E. Koulouriotis and V.D. Tourassis, “**Towards Adaptivity of Image Watermarking in Polar Harmonic Transforms Domain**”, *Optics & Laser Technology*, vol. 54, pp. 84-97, 2013.
- C.23 E.G. Karakasis, G.A. Papakostas, D.E. Koulouriotis and V.D. Tourassis, “**Generalized Dual Hahn Moment Invariants**”, *Pattern Recognition*, vol. 46, no. 7, pp. 1998-2014, 2013.
- C.22 M.K. Ketipi, D.E. Koulouriotis, E.G. Karakasis, G.A. Papakostas and V.D. Tourassis, “**A Flexible Nonlinear Approach for Representing Cause-Effect Relationships in FCMs**”, *Applied Soft Computing*, vol. 12, no. 12, pp. 3757-3770, 2012.
- C.21 G.A. Papakostas, E.G. Karakasis, D.E. Koulouriotis and V.D. Tourassis, “**Moment-Based Local Binary Patterns: A Novel Local Descriptor for Invariant Pattern Recognition Applications**”, *Neurocomputing*, vol. 99, no. 1, pp. 358-371, 2013.
- C.20 E.D. Tsougenis, G.A. Papakostas, D.E. Koulouriotis and V.D. Tourassis, “**Performance Evaluation of Moment-Based Watermarking Methods: A Review**”, *Journal of Systems and Software*, vol. 85, no. 8, pp. 1864-1884, 2012.
- C.19 G.A. Papakostas, D.E. Koulouriotis, A.S. Polydoros and V.D. Tourassis, “**Towards Hebbian Learning of Fuzzy Cognitive Maps in Pattern Classification Problems**”, *Expert Systems with Applications*, vol. 39, no. 12, pp. 10620-10629, 2012.
- C.18 A.G. Hatzimichailidis, G.A. Papakostas and V.G. Kaburlasos, “**A Novel Distance Measure of Intuitionistic Fuzzy Sets and its Application to Pattern Recognition Applications**”, *International Journal of Intelligent Systems*, vol. 27, no. 4, pp. 396-409, 2012.
- C.17 G.A. Papakostas, D.A. Karras, B.G. Mertzios, D. van Ormondt, and D. Graveron-Demilly, “**In vivo MRS Metabolites Quantification Using Evolutionary Optimization**”, *Measurement Science and Technology*, vol. 22, no. 11, 114004 (9pp), 2011.
- C.16 G.A. Papakostas, E.D. Tsougenis, D.E. Koulouriotis and V.D. Tourassis, “**On the Robustness of Harris Detector in Image Watermarking Attacks**”, *Optics Communications*, vol. 284, no. 19, pp. 4394-4407, 2011.

- C.15 G.A. Papakostas, D.E. Koulouriotis and E.G. Karakasis, “**Computation Strategies of Orthogonal Image Moments: A Comparative Study**”, *Applied Mathematics and Computation*, vol. 216, no. 1, pp. 1-17, 2010.
- C.14 G.A. Papakostas, Y.S. Boutalis, D.A. Karras, and B.G. Mertzios, “**Efficient Computation of Zernike and Pseudo-Zernike Moments for Pattern Classification Applications**”, *Pattern Recognition and Image Analysis*, vol. 20, no.1, pp. 56-64, 2010.
- C.13 G.A. Papakostas, E.G. Karakasis and D.E. Koulouriotis, “**Accurate and Speedy Computation of Image Legendre Moments for Computer Vision Applications**”, *Image and Vision Computing*, vol. 28, no. 3, pp. 414-423, 2010.
- C.12 G.A. Papakostas, E.G. Karakasis and D.E. Koulouriotis, “**Novel Moment Invariants for Improved Classification Performance in Computer Vision Applications**”, *Pattern Recognition*, vol. 43, no. 1, pp. 58-68, 2010.
- C.11 G.A. Papakostas, D.E. Koulouriotis and E.G. Karakasis, “**A Unified Methodology for Efficient Computation of Discrete Orthogonal Image Moments**”, *Information Sciences*, vol. 179, no. 20, pp. 3619-3633, 2009.
- C.10 G.A. Papakostas, Y.S. Boutalis, D.A. Karras, and B.G. Mertzios, “**Modified Factorial Free Direct Methods for Zernike and Pseudo-Zernike Moments Computation**”, *IEEE Trans. on Instrumentation and Measurement*, vol. 58, no. 7, pp. 2121-2131, 2009.
- C.9 G.A. Papakostas, Y.S. Boutalis, D.A. Karras and B.G. Mertzios, “**Pattern Classification by Using Improved Wavelet Compressed Zernike Moments**”, *Applied Mathematics and Computation*, vol. 212, no. 1, pp. 162-176, 2009.
- C.8 G.A. Papakostas, Y.S. Boutalis, D.E. Koulouriotis and B.G. Mertzios, “**Fuzzy Cognitive Maps for Pattern Recognition Applications**”, *International Journal of Pattern Recognition and Artificial Intelligence*, vol. 22, no. 8, pp. 1461-1468, 2008.
- C.7 G.A. Papakostas, E.G. Karakasis and D.E. Koulouriotis, “**Efficient and Accurate Computation of Geometric Moments on Gray-Scale Images**”, *Pattern Recognition*, vol. 41, no. 6, pp. 1895-1904, 2008.
- C.6 G.A. Papakostas, Y.S. Boutalis, C.N. Papaodysseus and D.K. Fragoulis, “**Numerical Stability of Fast Computation Algorithms of Zernike Moments**”, *Applied Mathematics and Computation*, vol. 195, no. 1, pp. 326-345, 2008.

- C.5 G.A. Papakostas, Y.S. Boutalis, S.T. Samartzidis, D.A. Karras and B.G. Mertzios, “**Two-Stage Hybrid Tuning Algorithm for Training Neural Networks in Image Vision Applications**”, *International Journal of Signal and Imaging Systems Engineering*, vol. 1, no. 1, pp. 58-67, 2008.
- C.4 G.A. Papakostas, Y.S. Boutalis, D.A. Karras, and B.G. Mertzios, “**Fast Numerically Stable Computation of Orthogonal Fourier-Mellin Moments**”, *IET Computer Vision*, vol.1, no. 1, pp. 11-16, 2007.
- C.3 G.A. Papakostas, Y.S. Boutalis, D.A. Karras, and B.G. Mertzios, “**A New Class of Zernike Moments for Computer Vision Applications**”, *Information Sciences*, vol. 177, no.13, pp. 2802-2819, 2007. (Impact Factor = 2.150) 49 ετερο-αναφορές
- C.2 G.A. Papakostas, Y.S. Boutalis, C.N. Papaodysseus and D.K. Fragoulis, “**Numerical Error Analysis in Zernike Moments Computation**” *Image and Vision Computing*, vol. 24, no. 9, pp. 960-969, 2006.
- C.1 G.A. Papakostas, D.A. Karras, B.G. Mertzios and Y.S. Boutalis, “**An Efficient Feature Extraction Methodology for Computer Vision Applications using Wavelet Compressed Zernike Moments**”, *ICGST International Journal on Graphics, Vision and Image Processing, Special Issue: Wavelets and Their Applications*, vol. SI1, pp. 5-15, 2005.

#### D. INTERNATIONAL CONFERENCE PAPERS

- D.34 G.A. Papakostas, E.I. Papageorgiou and V.G. Kaburlasos, “**Linguistic Fuzzy Cognitive Map (LFCM) for Pattern Recognition**”, *IEEE International Conference on Fuzzy Systems (FUZZ-IEEE 2015)*, pp., 2-5 August, Istanbul - Turkey, 2015, [under presentation](#).
- D.33 G.A. Papakostas and K.I. Diamantaras, “**Efficient Data Classification by GPU-Accelerated Linear Mean Squared Slack Minimization**”, *IEEE International Workshop on Machine Learning for Signal Processing (MLSP 2014)*, pp.1-6, 21-24 September, Reims-France, 2014.
- D.32 G.A. Papakostas and V.G. Kaburlasos, “**Lattice Computing (LC) Meta-representation for Pattern Classification**”, *IEEE International Conference on Fuzzy Systems (FUZZ-IEEE 2014)*, pp. 39-44, 6-11 July, Beijing - China, 2014.
- D.31 E.D. Tsougenis, G.A. Papakostas, D.E. Koulouriotis, E.G. Karakasis and D.A. Karras, “**Color Image Watermarking via Quaternion Radial Tchebichef Moments**”, *IEEE International Workshop on Imaging Systems and Techniques (IST'13)*, 22-23 October, Beijing – China, 2013.

- D.30** V.G. Kaburlasos, G.A. Papakostas, Th. Pachidis and A. Athinellis, “**Intervals' Numbers (INs) Interpolation/Extrapolation**”, *IEEE International Conference on Fuzzy Systems (FUZZ-IEEE 2013)*, pp. 1-8, 7-10 July, 2013, Hyderabad - India.
- D.29** G.A. Papakostas, V.G. Kaburlasos and Th. Pachidis, “**Thermal Infrared Face Recognition Based on Lattice Computing (LC) Techniques**”, *IEEE International Conference on Fuzzy Systems (FUZZ-IEEE 2013)*, pp. 1-6, 7-10 July, Hyderabad - India, 2013.
- D.28** K.M. Hosny, G.A. Papakostas and D.E. Koulouriotis, “**Accurate Reconstruction of Noisy Medical Images Using Orthogonal Moments**”, *Proceedings of the 18th International Conference on Digital Signal Processing (DSP'13)*, pp. 1-6, 1-3 July, Santorini - Greece, 2013.
- D.27** E.D. Tsougenis, G.A. Papakostas and D.E. Koulouriotis, “**Introducing the Separable Moments for Image Watermarking in a Totally Moment-Oriented Framework**”, *Proceedings of the 18th International Conference on Digital Signal Processing (DSP'13)*, pp. 1-6, 1-3 July, Santorini - Greece, 2013.
- D.26** A.G. Hatzimichailidis, G.A. Papakostas and V.G. Kaburlasos, “**A Study on D-Implications**”, *Proceedings of the 10th International FLINS Conference on Uncertainty Modeling in Knowledge Engineering and Decision Making (FLINS 2012)*, 26-29 August 2012, Istanbul, Turkey, pp. 708-713, 2012.
- D.25** S.E. Papadakis, V.G. Kaburlasos and G.A. Papakostas, “**Fuzzy lattice reasoning (FLR) classifier for human facial expression recognition**”, *Proceedings of the 10th International FLINS Conference on Uncertainty Modeling in Knowledge Engineering and Decision Making (FLINS 2012)*, 26-29 August 2012, Istanbul, Turkey, pp. 633-638, 2012.
- D.24** E.D. Tsougenis, G.A. Papakostas, D.E. Koulouriotis and V.D. Tourassis, “**Image Watermarking in Polar Harmonic Transforms Domain**”, *Proceedings of the 19th International Workshop on Systems, Signals and Image Processing (IWSSIP'12)*, ISBN 978-3-200-02588-2, 11-13 April, Vienna - Austria, 2012.
- D.23** M.K. Ketipi, D.E. Koulouriotis, E.G. Karakasis, G.A. Papakostas and V.D. Tourassis, “**Nonlinear Cause-Effect Relationships in Fuzzy Cognitive Maps**”, *IEEE International Conference on Fuzzy Systems (FUZZ-IEEE 2011)*, pp. 836-843, 27-30 June, 2011, Taipei-Taiwan.

- D.22** G.A. Papakostas, A.S. Polydoros, D.E. Koulouriotis and V.D. Tourassis, “**Training Fuzzy Cognitive Maps by Using Hebbian Learning Algorithms: A Comparative Study**”, *IEEE International Conference on Fuzzy Systems (FUZZ-IEEE 2011)*, pp. 851-858, 27-30 June, 2011, Taipei-Taiwan.
- D.21** G.A. Papakostas, D.A. Karras, B.G. Mertzios, D. Graveron-Demilly and D.van Ormondt, “**A Constrained Genetic Algorithm with Adaptively Defined Fitness Function in MRS Quantification**”, *International Conference on Grid and Distributed Computing, Control and Automation, (CGD/CA'10)*, pp. 257-268, 13-15 December 2010, Jeju Island – Korea.
- D.20** G.A. Papakostas, D.A. Karras, B.G. Mertzios, D.van Ormondt and D. Graveron-Demilly, “**On Quantifying MRS Metabolites Using a Constrained Genetic Algorithm**”, *IEEE International Workshop on Imaging Systems and Techniques (IST'10)*, pp. 46-51, 1-2 July 2010, Thessaloniki – Greece.
- D.19** G.A. Papakostas, E.D. Tsougenis and D.E. Koulouriotis, “**Near Optimum Local Image Watermarking Using Krawtchouk Moments**”, *IEEE International Workshop on Imaging Systems and Techniques (IST'10)*, pp. 464-467, 1-2 July 2010, Thessaloniki – Greece.  
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- D.18** G.A. Papakostas, E.G. Karakasis and D.E. Koulouriotis, “**Computing Orthogonal Moments in Biomedical Imaging**”, pp. 1-4, *16<sup>th</sup> International Workshop on Systems, Signals and Image Processing (IWSSIP'09)*, 18-20 June 2009, Chalkida – Greece.
- D.17** G.A. Papakostas, D.A. Karras and B.G. Mertzios, “**Performance of the Orthogonal Moments in Reconstructing Biomedical Images**”, pp. 1-4, *16<sup>th</sup> International Workshop on Systems, Signals and Image Processing (IWSSIP'09)*, 18-20 June 2009, Chalkida – Greece.
- D.16** G.A. Papakostas, D.A. Karras and B.G. Mertzios, “**Dealing with Peaks Overlapping Issue in Quantifying Human Brain Metabolites of MRSI**”, *IEEE International Workshop on Imaging Systems and Techniques (IST'09)*, pp. 58-62, 11-12 May 2009, Shenzhen – China.
- D.15** G.A. Papakostas, E.G. Karakasis and D.E. Koulouriotis, “**On Accelerating the Computation of 2-D Discrete Cosine Transform in Image Processing**”, *International Conference on Signals and Electronic Systems (ICSES'08)*, pp. 7-10, 14-17 September 2008, Krakow – Poland.
- D.14** G.A. Papakostas, D.A. Karras, B.G. Mertzios and Y.S. Boutalis, “**An Efficient Invariant Image Recognition Methodology Using Wavelet Compressed Zernike Moments Denoised**”

- Through Self Organizing Maps**", *IEEE International Workshop on Imaging Systems and Techniques (IST'07)*, pp. 1-6, 4-5 May 2007, Krakow – Poland.
- D.13** G.A. Papakostas, Y.S. Boutalis, D.A. Karras and B.G. Mertzios, "**Highly Compressed Zernike Moments by Smoothing**", *14<sup>th</sup> International Workshop on Systems, Signals and Image Processing (IWSSIP'07)*, pp. 213-216, 27-30 June 2007, Maribor – Slovenia.
- D.12** G.A. Papakostas, Y.S. Boutalis, D.A. Karras and B.G. Mertzios, "**Fast Computation of Orthogonal Fourier-Mellin Moments Using Modified Direct Method**", *14<sup>th</sup> International Workshop on Systems, Signals and Image Processing (IWSSIP'07)*, pp. 161-164, 27-30 June 2007, Maribor – Slovenia.
- D.11** G.A. Papakostas, E.G. Karakasis and D.E. Koulouriotis, "**Exact and Speedy Computation of Legendre Moments on Binary Images**", *8<sup>th</sup> International Workshop on Image Analysis for Multimedia Interactive Services (WIAMIS'07)*, p.48, 6-8 June 2007, Santorini – Greece.
- D.10** G.A. Papakostas, Y.S. Boutalis, D.E. Koulouriotis and B.G. Mertzios, "**A First Study of Pattern Recognition by Using Fuzzy Cognitive Maps**", *13<sup>th</sup> International Workshop on Systems, Signals and Image Processing (IWSSIP'06)*, pp. 369-374, 21-23 September 2006, Budapest – Hungary.
- D.9** G.A. Papakostas, Y.S. Boutalis, D.A. Karras and B.G. Mertzios, "**Efficient Computation of Orthogonal Moments by Suppressing the Factorial Terms**", *IEEE International Workshop on Imaging Systems and Techniques (IST'06)*, pp. 23-27, 29 April 2006, Minory – Italy.
- D.8** G.A. Papakostas, Y.S. Boutalis, S.T. Samartzidis, D.A. Karras and B.G. Mertzios, "**Combining Backpropagation and Genetic Algorithms to Train Neural Networks**", *12<sup>th</sup> International Workshop on Systems, Signals and Image Processing (IWSSIP'05)*, pp. 171-177, 22-24 September 2005, Chalkida – Greece.
- D.7** G.A. Papakostas, Y.S. Boutalis, D.A. Karras and B.G. Mertzios, "**An Exploration Measure of the Diversity Variation in Genetic Algorithms**", *2<sup>nd</sup> International Conference on Informatics in Control, Automation and Robotics (ICINCO'05)*, pp. 260-265, 14-17 September, Barcelona – Spain.
- D.6** G.A. Papakostas, Y.S. Boutalis, D.A. Karras, and B.G. Mertzios, "**On the Reconstruction Performance of Compressed Orthogonal Moments**", *1<sup>st</sup> International Conference on Informatics in Control, Automation and Robotics (ICINCO'04)*, pp. 468-474, 25-28 August 2004, Setubal – Portugal.

- D.5** G.A. Papakostas, O.I. Kosmidou and I.E. Antonakis, “**An LMI-Based Genetic Algorithm for Guaranteed Cost Control**”, *1<sup>st</sup> International Conference on Informatics in Control, Automation and Robotics (ICINCO’04)*, pp. 327-333, 25-28 August 2004, Setubal – Portugal.
- D.4** M. Dasygenis, E. Brockmeyer, D. Soudris, F. Catthoor, A. Thanailakis and G. Papakostas, “**Performance and Energy Optimization of Multimedia Applications Using DMA Combined with Prefetch**”, *Workshop on Compilers and Operating Systems for Low Power (COLP’03)*, 27 September 2003, New Orleans, Louisiana – USA.
- D.3** G.A. Papakostas, Y.S. Boutalis and B.G. Mertzios, “**Evolutionary Selection of Zernike Moment Sets In Image Processing**”, *10<sup>th</sup> International Workshop on Systems, Signals and Image Processing (IWSSIP’03)*, 10-11 September 2003, Prague – Czech Republic.
- D.2** G.A. Papakostas, D.A. Karras and B.G. Mertzios, “**Image Coding Using a Wavelet Based Zernike Moments Compression Technique**”, *14th International Conference on Digital Signal Processing (DSP2002)*, vol. II, pp. 517-520, 1-3 July 2002, Santorini-Hellas (Greece).
- D.1** O.I. Kosmidou, G.A. Papakostas and G.D. Tampakis, “**Robust Multiple Objective Control by Using LMI Optimization**”, *European Control Conference (ECC2001)*, pp. 713-716, 4-7 September 2001, Porto-Portugal.

## **9. PROFESSIONAL SERVICE**

### **Member of Scientific Communities**

- Technical Chamber of Greece (T.E.E.) since 03/2000.
- Panhellenic Association of Mechanical and Electrical Engineers (P.S.M.H.-M.), since 2000.
- Hellenic Association of Computer and Information Scientists (EPY) since 2003.
- EUCIP Hellas - Computer Skills Degrees, since 2004.
- Vellum Educational Services – Cambridge Computer Skills Degrees, since 2005.
- International Association of Engineers (IAENG)
- Machine Intelligence Research Labs (MIR Labs)
  - Profile - <http://www.mirlabs.net/global/index.php?c=main&a=person&id=653>
- European Network for the Advancement of Artificial Cognitive Systems, Interaction and Robotics (EUCog III)
  - Profile - <http://www.eucognition.org/eucog-wiki/User:2116>



### **Editorial Membership (Journal /Publisher)**

#### **Editor-in-Chief**

Gate to Computer Vision and Pattern Recognition / Science Gate Publishing  
Gate to Computational Intelligence and Soft Computing / Science Gate Publishing

#### **Associate Editor**

International Journal of Humanitarian Technology / Inderscience

#### **Reviewer**

IEEE Trans. on Image Processing / IEEE  
IEEE Trans. on Neural Networks and Learning Systems / IEEE  
IEEE Trans. on Fuzzy Systems / IEEE  
Pattern Recognition / Elsevier  
Information Sciences / Elsevier  
Image and Vision Computing / Elsevier  
Pattern Recognition Letters / Elsevier  
Neurocomputing / Elsevier  
Applied Mathematical Modelling / Elsevier  
Journal of Visual Communication and Image Representation / Elsevier  
Journal of Electronic Imaging / SPIE  
Applied Soft Computing / Elsevier  
Optics & Lasers in Engineering / Elsevier  
IET Image Processing / IET  
IET Computer Vision / IET  
Machine Vision and Applications / Springer  
Circuits Systems and Signal Processing / Springer  
Journal of Real-Time Image Processing / Springer

### **Conference Referee**

International Workshop on Systems, Signals and Image Processing (IWSSIP) - 2011  
World Congress on Nature and Biologically Inspired Computing (NaBIC) - 2011-14  
International Joint Conference on Neural Networks (IJCNN) - 2011-2014  
World Congress on Information and Communication Technologies (WICT) - 2012-14  
IEEE International Conference on Imaging Systems and Techniques (IST) - 2010  
International Conference on Hybrid Artificial Intelligence Systems (HAIS) - 2010-14  
European Signal Processing Conference (EUSIPCO) - 2007

## **10. PUBLICATIONS QUALITY AND CITATIONS**

The impact factors (based on Journal Citation Report – ISI Thomson 2012) of the journals where several of my articles have been published, as a measure of the publication's quality, are presented in the next table.

<b>Journal /Publisher</b>	<b>Impact Factor 2012</b>	<b>Number of Published Articles</b>
IEEE Trans. on Neural Networks and Learning Systems/ IEEE	2.633	1

IEEE Transactions on Image Processing/ IEEE	3.199	1
IEEE Trans. on Instrumentation and Measurement / IEEE	1.357	1
Pattern Recognition / Elsevier	2.632	3
Information Sciences / Elsevier	3.643	2
Applied Soft Computing / Elsevier	2.140	1
Expert Systems with Applications / Elsevier	1.363	2
Neurocomputing / Elsevier	1.634	2
Image and Vision Computing / Elsevier	1.959	2
Pattern Recognition Letters / Elsevier	1.266	1
Journal of Multi-Valued Logic and Soft Computing / OCP	1.047	1
Optics Communications / Elsevier	1.438	1
Optics & Laser Technology / Elsevier	1.365	1
Measurement Science and Technology / IOP	1.435	1
Applied Mathematics and Computation / Elsevier	1.349	4
Journal of Systems and Software / Elsevier	1.135	1
International Journal of Intelligent Systems / Wiley	1.416	1
Multimedia Tools and Applications / Springer	1.014	1
IET Computer Vision / IET	0.636	1
International Journal of Pattern Recognition and Artificial Intelligence / World Scientific	0.562	1
Pattern Recognition and Image Analysis / Springer	-	1
International Journal of Signal and Imaging Systems Engineering / Inderscience	-	1
International Journal on Graphics, Vision and Image Processing / ICGST	-	1

Citations on my research are retrieved through ScholarGoogle and Scopus tools as follows:

Google Scholar - **Citations** 759, **h-index** 16, **i10-index** 26,

**Link:** <http://scholar.google.com/citations?user=O9d4j7oAAAAJ&hl=en&oi=ao>

Scopus - **Citations** 442, **h-index** 12

**Link:** <http://www.scopus.com/authid/detail.url?authorId=14060879200>

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