



Oge Marques, Ph.D.

Associate Professor

Department of Computer and Electrical Engineering & Computer Science

COLLEGE OF ENGINEERING & COMPUTER SCIENCE

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1. Educational Background

- Ph.D. in Computer Engineering, Florida Atlantic University, Boca Raton, FL (USA), Aug. 2001.
- Master's in Electronic Engineering, Philips International Institute, Eindhoven (Netherlands), May 1989.
- B.S. in Electrical Engineering, *Centro Federal de Educação Tecnológica do Paraná* (CEFET-PR) (now *Universidade Tecnológica Federal do Paraná* - UTFPR) Curitiba-PR (Brazil), Feb. 1987.

2. Employment History

| | |
|---|----------------|
| Associate Chairman Dept of Computer and Electrical Engineering and Computer Science Florida Atlantic University, Boca Raton, FL (USA) | 2009 – Present |
| Associate Professor – Dept of Computer Science and Engineering Florida Atlantic University, Boca Raton, FL (USA) | 2007 – Present |
| Assistant Professor – Dept of Computer Science and Engineering Florida Atlantic University, Boca Raton, FL (USA) | 2001 – 2007 |
| Instructor – Dept of Computer Science and Engineering Florida Atlantic University, Boca Raton, FL (USA) | 1999 – 2001 |
| Associate Professor – Dept of Electrical Engineering <i>Centro Federal de Educação Tecnológica do Paraná</i> , Curitiba-PR (Brazil) | 1993 – 1997 |
| Assistant Professor – Dept of Electrical Engineering <i>Centro Federal de Educação Tecnológica do Paraná</i> , Curitiba-PR (Brazil) | 1989 – 1993 |
| Lecturer and Chairman – Dept of Computer Science <i>Fundação de Estudos Sociais do Paraná</i> , Curitiba-PR (Brazil) | 1992 - 1997 |
| Assistant Professor – Dept of Computer Science and Engineering <i>Pontifícia Universidade Católica do Paraná</i> , Curitiba-PR (Brazil) | 1991 - 1994 |
| Research Assistant – Computer Vision & Graphics Group Philips Research Laboratories, Eindhoven (Netherlands) | 1988 - 1989 |
| High-school Teacher - Department of Electronics <i>Centro Federal de Educação Tecnológica do Paraná</i> , Curitiba-PR (Brazil) | 1983 - 1989 |

3. Instructional Experience (selected courses, 1999-present)

3.1 Graduate Level Courses (6)

iPhone Programming, Cutting-Edge Web Technologies, Digital Image Processing, Foundations of Vision, Video Processing, Visual Information Retrieval.

3.2 Undergraduate Level Courses (10)

iPhone Programming, Cutting-Edge Web Technologies, Data and Computer Communications, Data Structures & Algorithms, Digital Image Processing, High-level Language Programming (C, C++), Internet Applications Programming, Introduction to the Internet, Introduction to Microprocessor-Based Systems, Logic Design.

3.3 Theses and Dissertations Supervised

(Co-) supervised 3 Ph.D. Dissertations (2 at FAU) and 10 Master's Theses (6 at FAU) to completion.

Ph.D. Dissertations Supervised (3):

- Gustavo B. Borba, "Automatic Extraction of Regions of Interest from Images Based on Visual Attention Models", *Universidade Tecnológica Federal do Paraná* (Curitiba-PR, Brazil), 2010. (co-advisor with Dr. Humberto R. Gamba)
- Liam M. Mayron, "Image retrieval using visual attention", Florida Atlantic University, 2008. (main advisor)
- Dubravko Culibrk, "Neural Network Approach to Bayesian Background Modeling for Video Object Segmentation", Florida Atlantic University, 2006. (co-advisor with Dr. Borko Furht)

Master's Theses Supervised (11):

- Christoph Kofler, "User Intent Classification for Digital Photo Retrieval", Klagenfurt Univeristy (Klagenfurt, Austria), 2010. (co-advisor with Dr. Mathias Lux)
- Joel Gibson, "FuzzyCUDA: Interactive Matte Extraction on a GPU", Florida Atlantic University, 2008. (main advisor)
- Carlos Pertuz, "Methods and Algorithms for Human Detection in Video Sequences", Florida Atlantic University, 2007. (main advisor)
- Alvaro Fonseca, "A Study on Implementing Autonomous Video Surveillance Systems Based on Optical Flow Concept", Florida Atlantic University, 2007. (co-advisor with Dr. Hanqi Zhuang)
- Pierre Baillargeon, "A Method for Adding Multimedia Knowledge For Improving Intrusion Detection Systems", Florida Atlantic University, 2005. (main advisor)
- Xundong Ding, "Web-Based Academic Advising System", Florida Atlantic University, 2002. (co-advisor with Dr. Sam Hsu)
- Fabio Costa, "Using Color Image Processing Techniques to Improve the Performance of Content-Based Image Retrieval Systems", Florida Atlantic University, 2001. (co-advisor with Dr. Borko Furht)
- Alex Holztratner, "Automatic Routing of Facsimile Messages", CEFET-PR, 1993. (co-advisor with Dr. Walter Godoy Junior (UTFPR, Curitiba, Brazil))
- Marcos Alberto Lopes, "Development of an Optical Character Recognition (OCR) system with Learning Capabilities", CEFET-PR, 1992. (main advisor)

- Carlos Alberto Jayme, “Image Compression Method for Signatures”, CEFET-PR, 1992. (co-advisor with Dr. Walter Godoy Junior (UTFPR, Curitiba, Brazil))
- Cion Cassiano Basso, “Computerized Numerical Control (CNC) for Printed Circuit Board (PCB) Drilling Machines”, CEFET-PR, 1992. (co-advisor with Dr. Altamiro Amadeu Suzim (UFRGS, Porto Alegre, Brazil))

3.4 Theses and Dissertations in Progress

Currently (co-) supervising 1 Ph.D. Dissertation (at FAU) and 3 Master’s Theses (all at FAU).

4. Research Interests

Digital Image and Video Processing
 Content-Based Image Retrieval
 Human and Computer Vision
 Semantic Technologies
 Web-Based Technologies.

5. Recent Publications (since 1998)

5.1 Books (4)

- B.1. O. Marques, “Practical Image and Video Processing Using MATLAB”, Wiley, New York, NY, 2011. (*to appear*)
- B.2. B. Furht and O. Marques (editors), "Handbook of Video Databases", *CRC Press*, Boca Raton, FL, 2004.
- B.3. O. Marques and B. Furht, “Content-Based Image and Video Retrieval”, *Kluwer Academic Publishers*, Norwell, MA, 2002.
- B.4. O. Marques and H. Vieira Neto, "Processamento Digital de Imagens" ("Digital Image Processing") (in Portuguese), *Editora Brasport*, Rio de Janeiro, Brazil, 1999.

5.2 Refereed Journal Papers (13)

- J.1. M. Lux, A. Pitman, and O. Marques, “Can Global Visual Features Improve Tag Recommendation for Image Annotation?”, *Future Internet Journal* (*under review*).
- J.2. D. Socek, D. Culibrk, O. Marques, and B. Furht, "Segmentation and Tracking of Objects in Stereoscopic Video Sequences Using Extended MPEG-7 Features", *Signal Processing: Image Communication* (*under review*).
- J.3. K. Schöffmann, F. Hopfgartner, O. Marques, L. Böszörményi, and J.M. Jose, "A Review on Video Browsing Interfaces and Applications", *SPIE Reviews* 1, 018004 (2010), DOI:10.1117/6.0000005.
- J.4. M. Lux, O. Marques, K. Schöffmann, L. Böszörményi, G. Lajtai, “Clustering based keyframe selection for summarization of arthroscopic videos”, *Multimedia Tools and Applications*, 2009, doi: 10.1007/s11042-009-0353-1.
- J.5. D. Socek, S.S. Magliveras, D. Culibrk, O. Marques, H. Kalva and B. Furht, "Digital Video Encryption Algorithms Based on Correlation-Preserving Permutations", *EURASIP Journal on Information Security*, Volume 2007, Article ID 52965, 15 pages, doi:10.1155/2007/52965.

- J.6. D. Culibrk, O. Marques, D. Socek, H. Kalva, and B. Furht, "Neural Network Approach to Background Modeling for Video Object Segmentation", *IEEE Transactions on Neural Networks*, Vol. 18, No. 6, pp. 1614-1627, November 2007.
- J.7. D. Socek, H. Kalva, S.S. Magliveras, O. Marques, D. Culibrk, and B. Furht, "New Approaches to Encryption and Steganography for Digital Videos", *Springer ACM Multimedia Systems Journal*, Vol. 13, No. 3, pp. 191-204, 2007.
- J.8. O. Marques and P. Baillargeon, "Design of a multimedia traffic classifier for Snort", *Information Management & Computer Security*, Vol. 15, issue 3, pp. 241-256, 2007.
- J.9. O. Marques, L.M. Mayron, G.B. Borba, and H.R. Gamba, "An attention-driven model for grouping similar images with image retrieval applications", *EURASIP Journal on Advances in Signal Processing*, Special Issue on Image Perception, Vol. 2007, Article ID 43450, 17 pages, 2007.
- J.10. O. Marques and L.M. Mayron, "How Can the Semantic Web Improve the Acquisition and Sharing of Knowledge?", *International Journal of Technology, Knowledge and Society*, Vol. 2, Issue 3, pp. 129-142, 2006.
- J.11. B. Satterwhite and O. Marques, "Automatic Detection of Television Commercials", *IEEE Potentials*, Vol. 23, No. 2, pp. 9-12, April/May 2004.
- J.12. O. Marques and B. Furht, "MUSE: A Content-Based Image Search and Retrieval System Using Relevance Feedback," *Multimedia Tools and Applications*, Kluwer Academic Publishers, Vol. 17, No. 1, pp. 21-50, May 2002.
- J.13. S. Hsu, O. Marques, M.K. Hamza, and B. Alhalabi, "How to Design a Virtual Classroom: 10 Easy Steps to Follow!", *Technological Horizons in Education (T.H.E.) Journal*, Vol. 27, No. 2, pp. 96-109, September 1999.

5.3 Refereed Conference Proceedings (49)

- C.1. M. Lux, A. Pitman, and O. Marques, " Callisto: Tag Recommendations by Image Content", Workshop on Interoperable Social Media Applications (WISMA 2010), 11th International Workshop of the Multimedia Metadata Community, Barcelona (Spain), May 19-21, 2010.
- C.2. M. Lux, C. Kofler, and O. Marques, "A Classification Scheme for User Intentions in Image Search", ACM Conference on Human Factors in Computing Systems CHI 2010, April 10-15, 2010, Atlanta, GA.
- C.3. G.B. Borba, H.R. Gamba, O. Marques, A. Colic, and V. Adzic, "Comparing figures of merit and image datasets for evaluation of salient region detection algorithms", The IASTED International Conference on Signal Processing, Pattern Recognition and Applications (SPPRA) 2010, February 17-19, 2010, Innsbruck, Austria.
- C.4. B. Chaudhury, O. Marques, G.B. Borba, and H.R. Gamba, "Unsupervised regions of interest extraction based on visual attention and SIFT", The IASTED International Conference on Signal Processing, Pattern Recognition and Applications (SPPRA) 2010, February 17-19, 2010, Innsbruck, Austria.
- C.5. O. Marques, "Teaching image and video processing with MATLAB", International Conference on Education and New Learning Technologies (EDULEARN), Barcelona, Spain, July 2009.
- C.6. O. Marques, "A comparative review of contemporary e-learning solutions", International Conference on Education and New Learning Technologies (EDULEARN), Barcelona, Spain, July 2009.
- C.7. M. Lux, K. Schöffmann, O. Marques, and L. Böszörmenyi, "A Novel Tool for Quick Video Summarization using Keyframe Extraction Techniques", 9th Workshop of the

- Multimedia Metadata Community, co-located with CORESA'09, Toulouse, France, March 2009.
- C.8. G.B. Borba, H.R. Gamba, L.M. Mayron and O. Marques, "Extraction of Salient Regions of Interest Using Visual Attention Models", SPIE Electronic Imaging, San Jose, California, January 2009.
 - C.9. O. Marques and M. Lux, "An Exploratory Study on Joint Analysis of Visual Classification in Narrow Domains and the Discriminative Power of Tags", Workshop on the Many Faces of Multimedia Semantics, co-located with ACM Multimedia, Vancouver, Canada, 2008.
 - C.10. L. Mayron and O. Marques, "Using a game to evaluate image retrieval, organization, and annotation", First ICIP Workshop on "Multimedia Information Retrieval: New Trends and Challenges", co-located with IEEE International Conference on Image Processing (ICIP) 2008, San Diego, California, October 12-15, 2008.
 - C.11. M. Lux, O. Marques, and A. Pitman, "Using Visual Features to Improve Tag Suggestions in Image Sharing Sites", International Workshop on Knowledge Acquisition from the Social Web (KASW'08), co-located with Triple-I 2008, September 3, 2008, Graz, Austria.
 - C.12. J. Gibson and O. Marques, "Stereo Depth with a Unified Architecture GPU", Workshop on "Computer Vision on GPUs", co-located with IEEE Computer Society Conference on Computer Vision and Pattern Recognition (CVPR) 2008, June 24-26, 2008, Anchorage, Alaska.
 - C.13. C. Pertuz, L. Mayron, D. Socek, and O. Marques, "A model for detecting and tracking humans using appearance, shape, and motion", The IASTED International Conference on Internet and Multimedia Systems and Applications (EuroIMSA) 2008, March 17-19, 2008, Innsbruck, Austria.
 - C.14. A. Fonseca, L. Mayron, D. Socek, and O. Marques, "Design and implementation of an optical flow-based autonomous video surveillance system", The IASTED International Conference on Internet and Multimedia Systems and Applications (EuroIMSA) 2008, March 17-19, 2008, Innsbruck, Austria.
 - C.15. O. Marques, A. Fonseca and L.M. Mayron, "An Intelligent Multimedia Traffic Classifier with Security Applications", IEEE SoutheastCon 2007, March 22-25, 2007, Richmond, VA.
 - C.16. O. Marques, L.M. Mayron, D. Socek, G.B. Borba and H.R. Gamba, "An attention-based method for extracting salient regions of interest from stereo images", International Conference on Computer Vision Theory and Applications (VISAPP), March 8-11, 2007, Barcelona, Spain.
 - C.17. G.B. Borba, H.R. Gamba, L.M. Mayron and O. Marques "Integrated global and object-based image retrieval using a multiple examples query schema", International Conference on Computer Vision Theory and Applications (VISAPP), March 8-11, 2007, Barcelona, Spain.
 - C.18. D. Culibrk, D. Socek, O. Marques, and B. Furht, "Automatic Kernel Width Selection for Neural Network Based Video Object Segmentation", International Conference on Computer Vision Theory and Applications (VISAPP), March 8-11, 2007, Barcelona, Spain.
 - C.19. L.M. Mayron and O. Marques, "Design of a web-based interface for image retrieval", International Conference on Web Information Systems and Technologies (WEBIST), March 3-6, 2007, Barcelona, Spain.
 - C.20. L.M. Mayron, G.B. Borba, V. Nedovic, O. Marques and H.R. Gamba, "A forward-looking user interface for CBIR and CFIR systems", IEEE International Symposium on Multimedia (ISM2006), December 11-13, 2006, San Diego, CA.

- C.21. O. Marques, P. Auger, and L.M. Mayron, "SimViKi: a tool for the simulation of secure video communication systems", IASTED International Conference on Communications, Internet, and Information Technology (CIIT) 2006, November 29 - December 1, 2006, St Thomas, US Virgin Islands.
- C.22. O. Marques, P. Auger, and L.M. Mayron, "Assessing contemporary issues in secure video communication systems", International Symposium on System and Information Security (SSI) 2006, November 8-10, 2006, Sao Jose dos Campos, Sao Paulo, Brazil.
- C.23. G.B. Borba, H.R. Gamba, O. Marques, and L.M. Mayron, "An unsupervised method for clustering images based on their salient regions of interest", The 2006 ACM Multimedia Conference, October 22-27, 2006, Santa Barbara, CA.
- C.24. L. Christodoulou, L.M. Mayron, H. Kalva, O. Marques, and B. Furht, "3D TV Using MPEG-2 and H.264 View Coding and Autostereoscopic Displays", The 2006 ACM Multimedia Conference, October 22-27, 2006, Santa Barbara, CA.
- C.25. D. Socek, M. Sramka, O. Marques and D. Culibrk, "An Improvement to a Biometric-Based Multimedia Content Protection Scheme", 8th ACM Multimedia and Security Workshop, September 26-27, 2006, Geneva, Switzerland.
- C.26. D. Socek, H. Kalva, S. S. Magliveras, O. Marques, D. Culibrk, and B. Furht, "A permutation-based correlation-preserving encryption method for digital videos ", ICIAR 2006 – International Conference on Image Analysis and Recognition, September 18-20, 2006, Póvoa de Varzim, Portugal.
- C.27. H. Kalva, L. Christodoulou, L. Mayron, O. Marques, and B. Furht, "Challenges and opportunities in video coding for 3D TV ", Special Session on "3-D TV: Primed for Success?", IEEE International Conference on Multimedia & Expo (ICME) 2006, July 9-12, 2006, Toronto, Canada.
- C.28. O. Marques, L. Mayron, G. Borba, and H. Gamba, "On the potential of incorporating knowledge of human visual attention into CBIR systems", Special Session on Perceptual Visual Processing, IEEE International Conference on Multimedia & Expo (ICME) 2006, July 9-12, 2006, Toronto, Canada.
- C.29. D. Socek, D. Culibrk, H. Kalva, O. Marques, and B. Furht, "Permutation-Based Low-Complexity Alternate Coding in Multi-View H.264/AVC", IEEE International Conference on Multimedia & Expo (ICME) 2006, July 9-12, 2006, Toronto, Canada.
- C.30. L. Christodoulou, L. Mayron, H. Kalva, O. Marques, and B. Furht, "Design and Evaluation of 3D Video System Based on H.264 View Coding", International Workshop on Network and Operating Systems Support for Digital Audio and Video (NOSSDAV 2006), Newport, Rhode Island, May 22–23, 2006.
- C.31. O. Marques, L.M. Mayron, H.R. Gamba, and G.B. Borba, "Using visual attention to extract regions of interest in the context of image retrieval", 44th ACM Southeast Conference (ACMSE2006), Melbourne, FL, USA, March 10-12, 2006.
- C.32. D. Culibrk, O. Marques, D. Socek, H. Kalva, and B. Furht, "A Neural Network Approach to Bayesian Background Modeling for Video Object Segmentation", Visapp 2006 (International Conference on Computer Vision Theory and Applications), 25-28 Feb, 2006, Setubal, Portugal.
- C.33. D. Socek, D. Culibrk, O. Marques, H. Kalva, and B. Furht, "A Hybrid Color-Based Foreground Object Detection Method for Automated Marine Surveillance", Acivs 2005 (Advanced Concepts for Intelligent Vision Systems) Conference, 20-23 Sept, 2005, Antwerp, Belgium.
- C.34. B. Petljanski and O. Marques, "A Novel Approach for Video Quantization Using the Spatiotemporal Frequency Characteristics of the Human Visual System", British Machine Vision Conference (BMVC'2005), 5-8 September 2005, Oxford, UK.

- C.35. O. Marques and P. Baillargeon, "A Multimedia Traffic Classification Scheme for Intrusion Detection Systems", IEEE International Conference on Information Technology and Applications (ICITA'2005), 4-7 July, 2005, Sydney, Australia.
- C.36. V. Nedovic and O. Marques, "A collaborative, long-term learning approach to using relevance feedback in content-based image retrieval systems", 47th International Symposium ELMAR-2005, 8-10 June 2005, Zadar, Croatia.
- C.37. O. Marques, P. Chilamakuri, S. Bowser, and J. Woodworth, "Wireless Multimedia Technologies for Assisted Living", Second LACCEI International Latin American and Caribbean Conference for Engineering and Technology (LACCEI'2004), June 2-4, 2004, Miami, FL.
- C.38. O. Marques and N. Barman, "Semi-automatic semantic annotation of images using machine learning techniques", International Semantic Web Conference (ISWC) 2003, October 20-23, 2003, Sanibel Island, FL.
- C.39. V. Nedovic, C. Nelson, S. Bowser, and O. Marques, "Delivery of near real-time soccer match highlights to wireless PDA devices", IASTED International Conference on Visualization, Imaging, and Image Processing, September 8-10, 2003, Benalmádena, Spain.
- C.40. B. Furht, K. Gustafson, H. Huang, and O. Marques, "An Adaptive Three-Dimensional DCT Compression Based on Motion Analysis", ACM SAC 2003, March 9-12, 2003, Melbourne, FL.
- C.41. S. Hsu, O. Marques, M. Ilyas, and X. Ding, "Web-Based Undergraduate Academic Advising System", *Proc. of the International Conference on Engineering Education 2002*, August 18 - 22, 2002, Manchester, UK.
- C.42. F. Costa, O. Marques, and B. Furht, "Improving the Performance of Content-Based Image Retrieval Systems with Color Image Processing Tools", *Proc. of the IASTED International Conference on Signal and Image Processing (SIP 2002)*, August 12-14, 2002, Kauai, Hawaii.
- C.43. O. Marques, and B. Furht, "Combining Clustering and Relevance Feedback Techniques in Content-Based Image Retrieval", *Proc. of the IASTED International Conference on Internet and Multimedia Systems and Applications (IMSA 2002)*, August 12-14, 2002, Kauai, Hawaii.
- C.44. O. Marques, S. Hsu, and X. Ding, "Design and Development of a Web-based System for Academic Advising", *Proc. of the 2001 ASEE/IEEE Frontiers in Education Conference (FIE '2001)*, October 10-13, 2001, Reno, Nevada.
- C.45. O. Marques, F. M. Costa, and B. Furht, "Content-Based Image Search and Retrieval Using Relevance Feedback: the MUSE Project", *Proc. of the Fourth IASTED Conference on Internet and Multimedia Systems and Applications (IMSA)*, November 19-23, 2000, Las Vegas, Nevada.
- C.46. O. Marques and B. Furht, "Issues in Designing Contemporary Video Database Systems", *Proc. of the Third IASTED Conference on Internet and Multimedia Systems and Applications (IMSA)*, October 18-21, 1999, Nassau, Bahamas.
- C.47. O. Marques and S. Hsu, "Assessing the Feasibility of Using Microsoft® NetMeeting™ in Distance Education", *Proc. of the International Conference on Engineering and Computer Education (ICECE'99)*, August 11-14, 1999, Rio de Janeiro, Brazil.
- C.48. O. Marques, S. Hsu, and N. Sharda, "Virtual Office Hours Using Microsoft® NetMeeting™", *Proc. of the World Multiconference on Systems, Cybernetics and Informatics (SCI'99 / ISAS'99)*, July 17-21, 1999, Orlando, Florida.

- C.49. O. Marques, J. Woodbury, S. Hsu, and S. Charitos, "Design and Development of a Hybrid Instruction Model for a New Teaching Paradigm", *Proc. of the 1998 ASEE/IEEE Frontiers in Education Conference (FIE '98)*, November 4-7, 1998, Tempe, Arizona.

5.4 Book Chapters and Other Publications (11)

- O.1. H. Kalva, L. Christodoulou, L. Mayron, O. Marques, and B. Furht, "Three Dimensional Television Services", in *Encyclopedia of Multimedia*, 2nd ed., Editor-in-Chief: Borko Furht, Springer 2008.
- O.2. O. Marques, "Image Compression and Coding", in *Encyclopedia of Multimedia*, 2nd ed., Editor-in-Chief: Borko Furht, Springer 2008.
- O.3. O. Marques, "Image Data Representations", in *Encyclopedia of Multimedia*, 2nd ed., Editor-in-Chief: Borko Furht, Springer 2008.
- O.4. O. Marques, "Content Extraction and Metadata", in *Encyclopedia of Multimedia*, 2nd ed., Editor-in-Chief: Borko Furht, Springer 2008.
- O.5. O. Marques and B. Furht, "Introduction to Video Databases", a chapter in *Handbook of Video Databases*, Editors-in-Chief: Borko Furht and Oge Marques, 2004, CRC Press.
- O.6. B. Furht and O. Marques, "Interactive Multimedia on the Web", a chapter in "The Internet Encyclopedia", Editor-in-Chief: Hossein Bidgoli, *Wiley*, 2004.
- O.7. O. Marques and N. Barman, "Wireless Communication Using Bluetooth", a chapter in "Handbook of Wireless Internet", Editors-in-Chief: Mohammad Ilyas and Borko Furht, *CRC Press*, Boca Raton, FL, 2003.
- O.8. O. Marques and B. Furht, "Content-Based Visual Information Retrieval," a chapter in the book "Distributed Multimedia Databases: Techniques and Applications," edited by T.K. Shih, *Idea Group Publishing*, Hershey, PA, 2002.
- O.9. O. Marques, S. Fallon, and B. Furht, "Content-Based Multimedia Retrieval on the Internet", a chapter in "Handbook of Internet Computing", Editor-in-Chief: Borko Furht, *CRC Press*, Boca Raton, FL, 2000.
- O.10. S. Hsu, N. Sharda, and O. Marques, "Case Studies in Internet-based Distance Learning", a chapter in "Handbook of Internet Computing", Editor-in-Chief: Borko Furht, *CRC Press*, Boca Raton, FL, 2000.
- O.11. O. Marques, "QoS Guarantees for Multimedia Traffic in Wireless Systems", a chapter in "Handbook of Internet and Multimedia Systems and Applications", Editor-in-Chief: Borko Furht, *CRC Press*, Boca Raton, FL, 1999.

Department Technical Reports (4)

Available upon request.

6. Current Sponsored Research

- Investigator in a Research Project on *Target identification and image analysis techniques for detecting large sea animals from aerial surveys* sponsored by FAU's Center for Ocean Energy Technology (COET).
 - Total Amount: US\$ 2,000,000.
 - PI: Howard Hanson, Ph.D. (Center for Ocean Energy Technology, FAU)
 - Duration: 2010-present
 - Role: Senior Researcher

7. Past Sponsored Research

- Investigator in a Research Project on *Content-based image retrieval using biologically-inspired models of the processes of visual attention and object recognition* sponsored by *UOL Bolsa Pesquisa* (in cooperation with UTFPR, Curitiba, PR, Brazil).
 - Total amount: US\$ 200,000.
 - PI: Humberto R. Gamba, Ph.D. (Professor, UTFPR)
 - Duration: 2005-09.
 - Role: Co-PI.
- Investigator in a Research Project on *Coastline Security Technologies* sponsored by the U.S. Office of Naval Research (ONR).
 - Total Amount: US\$ 6,250,000.
 - PI: Stewart Glegg, Ph.D. (Dept of Ocean Engineering, FAU)
 - Duration: 2004-2007.
 - Role: Co-PI
- Investigator in a Research Project on *Intrusion Detection Systems and Secure Multimedia Communications* sponsored by the U.S. Department of Defense (DoD).
 - Total amount: US\$ 2,000,000.
 - PI: Karl Stevens, Ph.D. (Dean, College of Engineering & Computer Science, FAU)
 - Duration: 2004-2006.
 - Role: Co-PI.

8. Professional Service

8.1 Membership in Professional Societies

- ACM (Student Member, 1997-2001, Voting Member 2001-present, Senior Member 2009-present)
- IEEE (Student Member, 1997-2001, Voting Member 2001-present, Senior Member 2009-present)
- IEEE Education Society (Student Member, 1998-2001, Voting Member 2001-present)
- IEEE Computer Society (Student Member, 1997-2001, Voting Member 2001-present)
- IEEE Multimedia Communications Technical Committee (MMTC) (Voting Member 2009-present)
- American Society for Engineering Education (ASEE) (Voting Member 2009 - present).

8.2 Conferences

- Technical Program Committee Member, 12th International Workshop of the Multimedia Metadata Community on Semantic Multimedia Database Technologies (SMDT2010), co-located with the *5th International Conference on Semantic and Digital Media Technologies (SAMT 2010)* (Saarbrücken, Germany, December 2010).
- Technical Program Committee Member, 4th International Conference on Multimedia and Ubiquitous Engineering (MUE 2010) (Redwood City, San Francisco Bay, CA, USA, June 2010).
- Program Committee Member, special track on "Self-organizing multimedia architectures", 2nd International Conference on Advances in Multimedia (MMEDIA 2010) (Athens, Greece, June 13-19, 2010).

- Technical Program Committee Member, Workshop on Interoperable Social Media Applications (WISMA 2010), 11th International Workshop of the Multimedia Metadata Community, Barcelona (Spain), May 19-21, 2010.
- Member of the International Advisory Board, 4th International Technology, Education and Development Conference (INTED2010), Valencia (Spain), March 8-10, 2010.
- Technical Program Committee Member, SeMuDaTe2009 (Workshop on Semantic Multimedia Database Technologies), 10th Workshop of the Multimedia Metadata Community, co-located with the *4th International Conference on Semantic and Digital Media Technologies* (Graz, Austria, December 2009).
- Program Committee Member, 9th Workshop of the Multimedia Metadata Community (with a special focus on context-aware mobile multimedia services), co-located with *CORESA'09* (Toulouse, France, March 2009).
- Program Committee Member, workshop on "Integrating Taxonomies and Folksonomies for Enhanced Knowledge Navigation (ITFEKN 2008)", co-located with the *7th International Conference on Practical Aspects of Knowledge Management (PAKM) 2008* (Yokohama, Japan, November 2008).
- Program Committee Member, workshop on "Knowledge Discovery and Data Mining From Multimedia Data and Multimedia Applications", held in conjunction with *IEEE International Conference on Data Mining (ICDM) 2007* (Omaha, NE, October 2007).
- Program Committee Member, *IEEE International Conference on Tools with Artificial Intelligence (ICTAI) 2007* (Patras, Greece, October 2007).
- Program Committee Member, *3rd Brazilian Symposium on Information Systems (SBSI 2006)* (Curitiba-PR, Brazil, November 2006).
- Program Committee Member, *44th ACM Southeast Conference (ACMSE 2006)*. (Melbourne, FL, March 2006).
- Co-chair, *Workshop on Wireless Multimedia*, part of the *IEEE Sixth International Symposium on Multimedia Software Engineering* (Miami, FL, December 2004).
- Program Committee Member, *1st ACM Workshop on Next Generation Residential Broadband Challenges (NRBC 2004)*, part of *ACM Multimedia 2004* (New York, NY, October 2004).
- Organizer and co-chair of a special track on *Image and Video Databases* for the *ACM SAC 2003* (Melbourne, FL, March 2003).
- Program Committee Member, *IASTED Third International Conference on Internet and Multimedia Systems and Applications (IMSA)*, Nassau, Bahamas, October 1999.
- Program Committee Member, *IEEE International Conference on Multimedia Computing and Systems*, Florence (Italy), 1999.

8.3 Invited Lectures and Presentations

- Invited talk on "Recent Advances in Visual Information Retrieval", Klagenfurt University, Klagenfurt, Austria, June 2010.
- Invited guest graduate-level course on "Digital Image Processing Using MATLAB", Klagenfurt, Austria, June 2010.
- Invited talk on "Promising avenues for interdisciplinary research in vision", *Universidade Estadual de Campinas (UNICAMP)*, Campinas, Brazil, March 2010.
- Invited guest graduate-level course on "Digital Image Processing Using Java and ImageJ", *Universidade Federal de Goiás (UFG)*, Goiania, Brazil, March 2010.
- Invited talk on "Promising avenues for interdisciplinary research in vision", *Universidade Federal de Goiás (UFG)*, Goiania, Brazil, March 2010.

- Invited talk on “Promising avenues for interdisciplinary research in vision”, Klagenfurt University, Klagenfurt, Austria, June 2009.
- Invited guest graduate-level course on “Visual Information Retrieval”, Klagenfurt University, Klagenfurt, Austria, June 2009.
- Invited talk on “Image organization, annotation, and retrieval from a human-centered perspective”, MIMOS, Kuala Lumpur, Malaysia, July 2008.
- Invited talk on “The role of semantics in multimedia information retrieval”, MIMOS, Kuala Lumpur, Malaysia, July 2008.
- Invited talk on “Visual Information Retrieval: challenges and opportunities”, MIMOS, Kuala Lumpur, Malaysia, July 2008.
- Invited talk on “Visual Information Retrieval”, UTFPR, Curitiba-PR, Brazil, July 2008.
- Invited talk on “Studying in the United States”, Fatec Internacional, Curitiba-PR, Brazil, July 2008.
- Invited guest graduate-level course on “Visual Information Retrieval”, UTFPR, Curitiba-PR, Brazil, June/July 2008.
- Invited talk on “Image retrieval using computational models of visual attention”, Klagenfurt University, Klagenfurt, Austria, June 2008.
- Invited talk on “Image organization, annotation, and retrieval from a human-centered perspective”, TU Graz, Graz, Austria, May 2008.
- Invited guest graduate-level course on “Visual Information Retrieval”, Klagenfurt University, Klagenfurt, Austria, May 2008.
- Invited tutorial on “Visual Information Retrieval”, *IASTED International Conference on Internet and Multimedia Systems and Applications (EuroIMSA)* 2008, March 2008, Innsbruck, Austria.
- Keynote speaker, III Enditec Technological Workshop, UTFPR, Medianeira-PR, Brazil, November 2006.
- Invited tutorial on “Visual Information Retrieval”, CEFET-PR University, Curitiba-PR, Brazil, July 2003.
- Invited tutorial on “Video Databases: design and applications”, *IASTED International Conference on Databases and Applications*, Innsbruck, Austria, February 2003.
- Guest Lecturer: “Content-Based Multimedia Search and Retrieval”, *IEEE Computer Society*, Boca Raton, FL, November 2001.

8.4 PhD committees

- PhD committee member for Branko Petljanski, “*Image Improvement Using Dynamic Optical Low-Pass Filte*”, Advisors: Dr. Borko Furht and Dr. William T. Rhodes, Department of Computer & Electrical Engineering and Computer Science, FAU (2010).
- External reviewer and PhD committee member for Klaus Schöffmann, “*Immediate Video Exploration: Enabling Explorative Search in Videos for Instantaneous Use by Fast Content Analysis and Integration of Users’ Expertise*”, Advisor: Dr. Laszlo Böszörményi, ITEC, Klagenfurt University, Klagenfurt, Austria (2009).
- External reviewer and PhD committee member for Milica Milosavljevic, “*The effects of preattention in an online advertising context: a neuroscience perspective*”, Advisor: Dr. Eric H. Shaw, Department of Marketing, FAU (2007).
- External reviewer and PhD committee member for David Nichols, “*Interaction between surface-based and edge-based motion mechanisms in the perception of apparent motion*”, Advisor: Dr. Howard Hock, Department of Psychology, FAU (2006).

- PhD committee member for Daniel Socek, “*Permutation-Based Transformations for Digital Multimedia Encryption and Steganography*”, Advisor: Dr. Borko Furht, Department of Computer Science and Engineering, FAU (2006).
- PhD committee member for Praveen Sanigepalli, “*Innovative Video Error Resilient Techniques for MBMS Systems*”, Advisor: Dr. Hari Kalva, Department of Computer Science and Engineering, FAU (2005).

8.5 University Service (since 1999)

- University President's Office eLearning Committee and Taskforce (2010)
- University IRM (Information Resource Management), Instructional Designer Search Committee (2010)
- Associate Chairman - Department of Computer and Electrical Engineering and Computer Science (2009-present)
- University Distance Education Committee (2009-present)
- University IRM (Information Resource Management) Advisory Committee (2009-present)
- College of Engineering and Computer Science Personnel Committee (2009-present)
- College of Arts & Letters, School of Communication and Multimedia Studies, Faculty Search Committee (2009-2010)
- CEECS Department Executive Committee (2009-present)
- CEECS Department Personnel Committee (2009-present)
- CEECS Department Research Committee (2009-present)
- CEECS Department Student Affairs Committee (2009-present)
- CEECS Department Class Scheduling Committee (2009-present)
- College of Engineering and Computer Science Research Committee (2008-present)
- Faculty co-advisor for the FAU Beta Chapter of the *Upsilon Pi Epsilon* (UPE) (2004 – present)
- Member of the Academic Committee of the *Judaica Sound Archives* at Florida Atlantic University Libraries (JSA) (2004 – present)
- Coordinator of the International Cooperation Agreement between FAU and UTFPR (Brazil) (1999 – present)
- College of Arts & Letters, School of Communication and Multimedia Studies, Faculty Search Committee (2008-2009)
- CSE Department Undergraduate CS Program Committee (2008-2009).
- CSE Department Graduate Programs Committee (2002-2009)
- Coordinator of the CSE PhD Qualifying Exam (2006-2009)
- Academic advisor for CSE graduate students with minor in Business (2006-2009)
- Faculty advisor for the FAU Chapter of the *Society of Hispanic Professional Engineers* (SHPE) (2001-2008)
- University Faculty Senate: Senator (*elected*) (2006-2008)
- CSE Department TA/GA Committee (2002-2008)
- CSE Department Internet Technology MS Committee (2001-2002)
- CSE Department Executive Committee (2003-2005)
- CSE Department Undergraduate CE Program Committee (2001-2002).

8.6 Editorial Board

- Editorial Board member of the journal *Multimedia Tools and Applications*, Springer.
- Editorial Board member of the journal *Revista da Vinci*, Universidade Positivo, Curitiba, Brazil.
- Guest Co-Editor, Special issue on Wireless Multimedia, *Multimedia Tools and Applications*, Springer, Volume 28, Number 1, February 2006.
- Editorial Board member, *Encyclopedia of Multimedia* (Editor: Borko Furht), Springer, 2006.

8.7 Professional Service

- Reviewer for the Hong Kong's Innovation and Technology Commission.
- Reviewer for the Netherlands Organisation for Scientific Research (NWO).
- Reviewer for the Austrian Science Fund.
- Reviewer for the Kentucky Science Foundation.
- Review Board member, *International Journal of Computational Science* (IJCS).
- Reviewer for several journals, including: *IEEE Transactions on Image Processing*, *Pattern Recognition* (Elsevier), *IEEE Transactions on Circuits and Systems for Video Technology*, *IEEE Transactions on Multimedia*, *IEEE Transactions on Systems, Man and Cybernetics*, *EURASIP Journal on Image and Video Processing*, and *Multimedia Tools and Applications* (Springer).
- Reviewer for several conferences.
- Reviewer for several technical books.

9 Selected Professional Recognition, Honors, and Awards

- **Member of Tau Beta Pi**, the "only engineering honor society representing the entire engineering profession", America's second-oldest honor society, inducted as *Eminent Engineer* (2009 - present).
- **Senior Member of the IEEE** (Institute of Electrical and Electronics Engineers) (2009 - present).
- **Senior Member of the ACM** (Association for Computing Machinery), "a member grade that recognizes up to 25% of the top ACM Professional Members with at least 10 years of professional experience and 5 years of continuous Professional Membership who have demonstrated performance that sets them apart from their peers." (2009 - present).
- **Member of Sigma Xi**, the honor society of research scientists and engineers. (2009 - present).
- *Highly Commended Award* at the *Literati Network Awards for Excellence 2008*, for the paper "Design of a multimedia traffic classifier for Snort", published in the *Information Management & Computer Security* journal – 2008.
- *Hot Course Award* (for the *Cutting-edge Web Technologies* course), Department of Computer Science and Engineering, Florida Atlantic University – 2008.
- College of Engineering and Computer Science *Dean's Faculty Award 2004-05*.
- *Excellence in Undergraduate Teaching Award*, Florida Atlantic University – 2004.
- **Member of Upsilon Pi Epsilon**, the "first and only, existing international honor society in the Computing and Information disciplines." (2004 - present).

- *Excellence in Teaching and Superb Student Evaluation Award* – Department of Computer Science and Engineering, Florida Atlantic University – 2002.
- *Honorable Mention (Top 10 worldwide)* in the IEEE CSIDC 2002 competition, as the mentor of the FAU “CodeBlue” Team, Washington, D.C., June 2002.
- Graduate Scholarship, FAU Chapter of Phi Kappa Phi, 1999.
- **Member of the Honor Society of Phi Kappa Phi**, America's "oldest, largest, and most selective honor society for all academic disciplines." (1999 - present).