Prof. Oge Marques, PhD
Curriculum Vitae

Contact information

Florida Atlantic University (FAU), College of Engineering & Computer Science, CEECS Department
777 Glades Road, Boca Raton, FL - 33431 USA
Phone: +1 (561) 297-3857
Email: omarques@fau.edu | http://www.eng.fau.edu/directory/faculty/marques/

Education

- Ph.D. in Computer Engineering, Florida Atlantic University, Boca Raton, FL (USA), Aug. 2001. Dissertation: "Content-Based Image Retrieval Using Relevance Feedback". Advisor: Prof. Borko Furht.

- Master's in Electronic Engineering, Philips International Institute / Eindhoven University of Technology, Eindhoven (the Netherlands), May 1989.

- B.Sc. in Electrical Engineering, *Centro Federal de Educação Tecnológica do Paraná* (CEFET-PR) (now *Universidade Tecnológica Federal do Paraná* - UTFPR) Curitiba-PR (Brazil), Feb. 1987.

Current and past positions (selected)

- Professor, Department of Computer and Electrical Engineering and Computer Science (CEECS), College of Engineering & Computer Science, FAU (2014 – Present)

- Professor (by courtesy), Department of Information Technology and Operations Management (ITOM), College of Business, FAU (2015 – Present)

- Associate Director, NSF Industry/University Cooperative Research Center (I/U CRC) for Advanced Knowledge Enablement (CAKE), FAU (2016 – Present)

- Associate Professor, CEECS Department, FAU (2007–2014)

- Assistant Professor, Department of Computer Science and Engineering, FAU (2001–2007)

- Instructor, Department of Computer Science and Engineering, FAU (1999–2001)

- Associate Professor, Dept. of Electrical Engineering, CEFET-PR, Curitiba (Brazil) (1993–1997)

- Assistant Professor, Dept. of Electrical Engineering, CEFET-PR, Curitiba (Brazil) (1989–1993)

- Lecturer and Chair, Dept. of Computer Science, FESP, Curitiba (Brazil) (1992–1997)

- Assistant Professor, Dept. of Computer Science and Engineering, PUC-PR, Curitiba (Brazil) (1991–1994)

- Research Assistant, Computer Vision & Graphics Group, Philips Research Laboratories, Eindhoven (Netherlands) (1988–1989)

- High-school Teacher, Department of Electronics, CEFET-PR, Curitiba (Brazil) (1983–1989)

Professional Recognition, Honors, and Awards (selected)

- Sigma Xi Distinguished Lecturer (2020 - present).

- Leshner Leadership Institute Public Engagement Fellow, AAAS (American Association for the Advancement of Science) (2019 - present).

- John J. Guarrera Engineering Educator of the Year Award, The Engineers' Council, West Palm Beach, FL (2019).

- Excellence and Innovation in Undergraduate Teaching Award, FAU (2018, 2011, and 2004).

- ACM Distinguished Speaker (2014 - present).

- Member of the Eindhoven University of Technology Alumni Association (2010 - present).

- *Senior Member* of the IEEE (Institute of Electrical and Electronics Engineers) (2009 - present).

- *Senior Member* of the ACM (Association for Computing Machinery) (2009 - present).

- Member of Tau Beta Pi, the oldest engineering honor society, inducted as *Eminent Engineer* (2009 - present).

- Member of Sigma Xi, the honor society of research scientists and engineers (2009 - present).

- Member of Upsilon Pi Epsilon, the first honor society dedicated to the discipline of the computing and information disciplines (2004 - present).

- Member of Phi Kappa Phi, the oldest all-discipline honor society (1999 - present).

- *Outstanding Mid-Career Teaching* Award, American Society for Engineering Education - Southeastern Section (ASEE-SE) (2011).

- College of Engineering and Computer Science *Dean's Faculty* Award (2004-05).

- *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).

- Dr. Daniel B. Newell and Aurel B. Newell Doctoral Fellowship, Florida Atlantic University (1999-2000).

Membership in Professional Associations and Societies

- Senior Member, Association for Computing Machinery (ACM)

- Senior Member, Institute of Electrical and Electronics Engineers (IEEE)

- Member, American Association for the Advancement of Science (AAAS)

- Member, American Society for Engineering Education (ASEE)

- Member, European Society of Medical Imaging Informatics (EuSoMII)

- Member, Radiological Society of North America (RSNA)

- Member, Society for Imaging Informatics in Medicine (SIIM)

Language skills

- *Portuguese*: native language

- *English*: fluent (speaking, reading, writing)

- *Spanish*: fluent (speaking, reading); intermediate (writing)

- *French*: intermediate (speaking, reading); basic (writing)

Research Summary

- Since 1998, I have published 10 books, 10+ invited book chapters/sections, 20+ refereed international journal publications, 70+ refereed papers in scientific conferences, and several invited papers and other publications. A list of these appears at the end of this CV.

- My current research interests lie under the umbrella of "Artificial intelligence in healthcare," particularly "Medical image analysis using deep learning."

- I currently (co-)supervise 2 PhD Dissertations (one at FAU, one at *Alpen-Adria Universität Klagenfurt* (Austria)) and one Master's thesis (at FAU).

- I have previously (co-) supervised to completion 6 PhD students and 15 Master's students, listed next.

Supervised PhD Dissertations (6)

- Mario Taschwer, "Concept-Based and Multimodal Methods for Medical Case Retrieval," *Alpen-Adria Universität Klagenfurt*, Klagenfurt, Austria, 2017. (co-advisor with Prof. Laszlo Böszörmenyi)

    o Mario Taschwer is currently Postdoc and System Administrator at *Alpen-Adria Universität Klagenfurt* (Austria)

- Aleksandar Čolić, "Design and Implementation of Driver Drowsiness Detection System", Florida Atlantic University, 2014. (*advisor*)

    o Aleksandar Čolić is currently Software Engineer at Graphic Security Systems Corp. (Lake Worth, FL)

- Joel Gibson, "Sparse and Low Rank Constraints on Optical Flow and Trajectories", Florida Atlantic University, 2014. (*advisor*)

    o Joel Gibson is currently Senior Principal Engineer with Blackmagic Design (Colorado Springs, CO)

- Gustavo B. Borba, "Automatic Extraction of Regions of Interest from Images Based on Visual Attention Models", *Universidade Tecnológica Federal do Paraná* (UTFPR) (Curitiba-PR, Brazil), 2010. (co-advisor with Dr. Humberto R. Gamba)

    o Gustavo B. Borba is currently Associate Professor at UTFPR (Curitiba-PR, Brazil)

- Liam M. Mayron, "Image retrieval using visual attention", Florida Atlantic University, 2008. (*advisor*)

    o Liam M. Mayron is currently Senior Product Manager at Fastly (Denver, CO)

- Dubravko Culibrk, "Neural Network Approach to Bayesian Background Modeling for Video Object Segmentation", Florida Atlantic University, 2006. (co-advisor with Dr. Borko Furht)
    - o Dubravko Culibrk is currently Professor at the University of Novi Sad (Novi Sad, Serbia) and Senior Research Scientist at TandemLaunch Inc. (Montreal, Canada)

Supervised Master's Theses (15)

[1] Jack Burdick, "Skin lesion segmentation and classification using deep learning", Florida Atlantic University, 2018. (*advisor*)

[2] Maryam Eneim, "An intelligent method for violence detection in live video feeds", Florida Atlantic University, 2016. (*advisor*)

[3] Jhanon James, "Face processing using mobile devices", Florida Atlantic University, 2016. (*advisor*)

[4] Rafael Giusti Urbina, "A systematic evaluation of object detection and recognition approaches with context capabilities", Florida Atlantic University, 2011. (*advisor*)

[5] Christoph Kofler, "User Intent Classification for Digital Photo Retrieval", *Alpen-Adria Universität Klagenfurt*, Klagenfurt, Austria, 2010. (*co-advisor with Prof. Laszlo Böszörmenyi*)

[6] Joel Gibson, "FuzzyCUDA: Interactive Matte Extraction on a GPU", Florida Atlantic University, 2008. (*advisor*)

[7] Carlos Pertuz, "Methods and Algorithms for Human Detection in Video Sequences", Florida Atlantic University, 2007. (*advisor*)

[8] 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*)

[9] Pierre Baillargeon, "A Method for Adding Multimedia Knowledge For Improving Intrusion Detection Systems", Florida Atlantic University, 2005. (*advisor*)

[10] Xundong Ding, "Web-Based Academic Advising System", Florida Atlantic University, 2002. (*co-advisor with Dr. Sam Hsu*)

[11] 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*)

[12] Alex Holztratner, "Automatic Routing of Facsimile Messages", CEFET-PR (Curitiba-PR, Brazil), 1993. (*co-advisor with Dr. Walter Godoy Junior*)

[13] Marcos Alberto Lopes, "Development of an Optical Character Recognition (OCR) System with Learning Capabilities", CEFET-PR (Curitiba-PR, Brazil), 1992. (*advisor*)

[14] Carlos Alberto Jayme, "Image Compression Method for Signatures", CEFET-PR (Curitiba-PR, Brazil), 1992. (*co-advisor with Dr. Walter Godoy Junior*)

[15] Cion Cassiano Basso, "Computerized Numerical Control (CNC) for Printed Circuit Board (PCB) Drilling Machines", CEFET-PR (Curitiba-PR, Brazil), 1992. (*co-advisor with Dr. Altamiro Amadeu Suzim*)

# Research funding (selected, 2005 – present)

Date	Project Title	Sponsor	Role	Total amount
2017-2019	*Cross Disciplinary/Inter-Generational "Technology Translation Teams (T3's)"*	Farris Foundation	Co-PI	US$ 200,000.00
2017-2018	*Multi-channel real-time video enhancement*	NSF Industry/University Cooperative Research Center for Advanced Knowledge Enablement (CAKE)	Co-PI	US$ 30,000.00
2016-2017	*Medical image analysis using deep learning techniques*	NSF CAKE	Principal Investigator (PI)	US$ 59,734.00
2015-2020	*NSF Industry/University Cooperative Research Center for Advanced Knowledge Enablement (CAKE) – Phase II*	NSF	Co-PI	US$ 225,000.00
2015-2016	*Fast Violence Detection in Surveillance Scenes*	NSF CAKE	Co-PI	US$ 86,840.00
2015-2016	*Multimedia – Image Analysis and Processing*	NSF CAKE	Co-PI	US$ 25,000.00
2013	*Algorithms for Identifying Abnormal Behavior of Drivers*	NSF CAKE	PI	US$ 12,627.22
2010-2011	*Target identification and image analysis techniques for detecting large sea animals from aerial surveys*	FAU's Southeast National Marine Renewable Energy Center (SNMREC)	Senior Researcher	US$ 158,676.94
2006-2007	*Coastline Security Technologies*	U.S. Office of Naval Research (ONR)	Co-PI	US$ 232,552.00
2005-2006	*Coastline Security Technologies*	U.S. Office of Naval Research (ONR)	Co-PI	US$ 276,022.00
2005-2006	*Intrusion Detection Systems and Secure Multimedia Communications*	U.S. Department of Defense (DoD)	Co-PI	US$ 60,414.00

Industry collaboration and partnerships (selected)

- *NSF Industry/University Cooperative Research Center (I/U CRC) for Advanced Knowledge Enablement (CAKE)* (http://cake.fau.edu/), FAU (2016 – Present): in my capacity as Associate Director, developed strong ties and frequent interactions with 30+ companies (CAKE members) and associated joint research projects.

- *Vlatacom Research and Development Institute* (Belgrade, Serbia) (CAKE Member) (http://www.vlatacominstitute.com/) (2015 – 2019): PI and leading researcher in collaborative research projects on Fingerprint Verification (2015-2017) and Multi-channel Real-time Video Enhancement (2017-2019).

- *FlexReceipts* (Orlando, FL) (http://www.flexreceipts.com/) (2014): engaged in a technology transfer process (licensing agreement of our US patent 7,933,452, "System and Methods of Image Retrieval").

- *Unify* (Boca Raton, FL) (http://www.unify.com) (then called *Siemens Enterprise Communications*) (2011): prepared and taught (with Jeremy Jacob) a customized training program on iOS Programming.

- *LexisNexis* (Boca Raton, FL) (http://www.lexisnexis.com) (2011): prepared and taught (with Jeremy Jacob) a customized training program on iOS Programming.

- *Pace Micro Technology Americas* (Boca Raton, FL) (now part of *Arris*) (http://www.arris.com) (2005): prepared and taught a customized training program on Advanced C++ Programming.

- *Siemens* (Curitiba, Brazil) (then called *Equitel*) (1992-1993): researcher in collaborative research projects on Document Image Analysis.

- *CINQ Technologies* (Curitiba, Brazil) (https://www.cinq.com.br/en/) (then called *Qualipro*) (1991-1992): researcher in collaborative research projects on Document Image Analysis.

Instructional Experience (selected courses at FAU, 1999-present)

New courses, developed by Dr. Marques, are marked with an (*).
Courses indicated with ⌨ are also available *fully online*.

Graduate-Level Courses

- Artificial Intelligence

- Artificial Intelligence for Medicine and Healthcare (*) (*upcoming*)

- Deep Learning ⌨

- Foundations of Vision (*)⌨

- Information Security Management ⌨

- Introduction to Data Science

- Machine Learning for Computer Vision (*) ⌨

- Mobile Apps for Business (*)⌨

- Video Processing

- Visual Information Retrieval (*)

Undergraduate-Level Courses

- Cutting-Edge Web Technologies (*)⌨ *[Quality Matters (QM) Certified]*

- Data Structures & Algorithms

- Digital Image Processing (*)⌨

- Foundations of Computer Science

- Introduction to Artificial Intelligence 🖥 *[Quality Matters (QM) Certified]*

- Introduction to Data Communications

- Introduction to Internet Computing 🖥 *[Quality Matters (QM) Certified]*

- Introduction to Microprocessor-Based Systems

- Introduction to Programming in 'C'

- Introduction to the Internet (*)

- iOS Programming (*)

- Leadership Development Workshop (*) (co-developed with Edgar An)

- Logic Design

- Principles of Software Engineering

- Senior Seminar

- Web Services (*)🖥 [Quality Matters (QM) Certified]

Academic visits (selected, 2008 – present)

- *Technische Universität Wien*, Vienna, Austria, December 2018, Host: Prof. Dr. Horst Eidenberger

- Johns Hopkins University, Baltimore, MD, November 2018, Host: Prof. Dr. Haider Ali

- Lister Hill National Center for Biomedical Communications, National Library of Medicine (NLM), National Institutes of Health (NIH), Bethesda, MD, October-November 2018, Host: Dr. Sameer Antani

- ENSEEIHT Engineering School, University of Toulouse, France, September 2018, Host: Prof. Dr. Vincent Charvillat

- *Université d'Orléans*, Orléans, France, September 2018, Host: Prof. Dr. Rachid Jennane

- *Alpen-Adria Universität Klagenfurt*, Klagenfurt, Austria, May 2017, Host: Prof. Dr. Laszlo Böszörmenyi

- *Technische Universität Wien*, Vienna, Austria, April-May 2017, Host: Prof. Dr. Christian Breiteneder

- *Alpen-Adria Universität Klagenfurt*, Klagenfurt, Austria, May 2016, Host: Prof. Dr. Laszlo Böszörmenyi

- *Alpen-Adria Universität Klagenfurt*, Klagenfurt, Austria, May 2013, Host: Prof. Dr. Laszlo Böszörmenyi

- UTFPR, Curitiba-PR, Brazil, May/June 2012, Host: Prof. Dr. Humberto R. Gamba

- *Universitat Politècnica de Catalunya* (UPC), Barcelona, Spain, March 2012, Host: Prof. Dr. Ferran Marqués

- ENSEEIHT Engineering School, University of Toulouse, France, February/March 2012, Host: Prof. Dr. Vincent Charvillat

- *Alpen-Adria Universität Klagenfurt*, Klagenfurt, Austria, January 2012, Host: Prof. Dr. Laszlo Böszörmenyi

- *Alpen-Adria Universität Klagenfurt*, Klagenfurt, Austria, June 2010, Host: Prof. Dr. Laszlo Böszörmenyi

- ENSEEIHT Engineering School, University of Toulouse, France, May 2010, Host: Prof. Dr. Vincent Charvillat

- *Universidade Federal de Goiás (UFG)*, Goiania, Brazil, March 2010, Host: Prof. Dr. Leandro Luis Galdino de Oliveira

- *Alpen-Adria Universität Klagenfurt*, Klagenfurt, Austria, June 2009, Host: Prof. Dr. Laszlo Böszörmenyi

- UTFPR, Curitiba-PR, Brazil, July 2008, Host: Prof. Dr. Humberto R. Gamba

- *Alpen-Adria Universität Klagenfurt*, Klagenfurt, Austria, May/June 2008, Host: Prof. Dr. Laszlo Böszörmenyi

Keynotes / Plenary Talks (selected, 2012 – present)

- Keynote speech: "Artificial Intelligence (AI): what is it, should you be scared of it, how can you adapt?", Medtronic Annual Science & Technology Conference, Minneapolis, MN, October 2019.

- Keynote speech: "Using games to solve challenging multimedia problems," SBGames (*XVI Simpósio Brasileiro de Jogos e Entretenimento Digital*) 2017, Curitiba, Brazil, November 2017.

- Plenary talk: "Inspiring Actions for Successful Engineering Education", Fourth IEEE International Conference on MOOCs, Innovation and Technology in Education (MITE 2016), Madurai, India, December 2016.

- Overview talk: "Using Games to Solve Challenging Multimedia Problems", ACM Multimedia Systems 2016 Conference – Klagenfurt am Wörthersee, Austria, May 2016.

- Keynote speech: "Visual Information Retrieval: Advances, Challenges and Opportunities", 4th International Conference on Advances in Computing, Communications and Informatics (ICACCI) – Kochi, India, August 2015.

- Keynote speech: "Advances and Challenges in Visual Information Search and Retrieval", 8th Brazilian Computer Vision Workshop (WVC 2012) – Goiania-GO, Brazil, May 2012.

Tutorials, seminars, and short courses (selected, 2003 – present)

- Tutorial: "The Data Science landscape: foundations, tools, and practical applications", 18th IEEE International Conference on Machine Learning and Applications - ICMLA 2019, Boca Raton, Florida, USA, December 2019.

- Tutorial: "Deep Learning for Computer Vision Using MATLAB", ENSEEIHT Engineering School, University of Toulouse, France, September 2018.

- Seminar: "Machine Learning and Applications", *Université d'Orléans*, Orléans, France, September 2018.

- Tutorial: "Medical image analysis using deep learning", *IEEE 7th* International Conference on Image Processing Theory, Tools and Applications (IPTA 2017), Montreal, Canada, Nov 28 – Dec 1, 2017.

- Invited guest graduate-level course: "Medical Image Analysis Using Deep Learning", *Alpen-Adria Universität Klagenfurt*, Klagenfurt, Austria, May 2017.

- Invited guest graduate-level course: "Advances and Challenges in Vision Science", *Technische Universität Wien*, Vienna, Austria, April-May 2017.

- Tutorial: "Medical image analysis using deep learning", *IASTED International Conference on Biomedical Engineering*, Innsbruck, Austria, February 2017.

- Workshop: "Image processing using MATLAB", Thiagarajar College of Engineering (TCE), Madurai, India, December 2016.

- 4-lecture series: "Innovative Technologies for Everyday Life", Lifelong Learning Society (LLS), Florida Atlantic University, Jan-Feb 2016.

- 4-lecture series: "Social Media and Smartphones", Lifelong Learning Society (LLS), Florida Atlantic University, October 2014.

- Invited guest graduate-level course: "Machine Learning for Computer Vision", *Alpen-Adria Universität Klagenfurt*, Klagenfurt, Austria, May 2013.

- Invited guest graduate-level course: "Machine Learning for Computer Vision", UTFPR, Curitiba-PR, Brazil, May/June 2012.

- Invited guest graduate-level course: "Digital Image Processing Using MATLAB", *Alpen-Adria Universität Klagenfurt*, Klagenfurt, Austria, January 2012.

- Mini-course: "Image Processing and Computer Vision in iPhone and iPad", 7th Brazilian Computer Vision Workshop (WVC 2011), Curitiba-PR, Brazil, May 2011.

- Tutorial: "Advances in Image Search and Retrieval", IASTED International Conference on Internet and Multimedia Systems and Applications (IMSA) 2011, Washington, DC, May 2011.

- Invited guest graduate-level course: "Digital Image Processing Using MATLAB", *Alpen-Adria Universität Klagenfurt*, Klagenfurt, Austria, June 2010.

- Invited guest graduate-level course: "Digital Image Processing Using Java and ImageJ", *Universidade Federal de Goiás (UFG)*, Goiania, Brazil, March 2010.

- Invited guest graduate-level course: "Visual Information Retrieval", *Alpen-Adria Universität Klagenfurt*, Klagenfurt, Austria, June 2009.

- Invited guest graduate-level course: "Visual Information Retrieval", UTFPR, Curitiba-PR, Brazil, July 2008.

- Invited guest graduate-level course: "Visual Information Retrieval", *Alpen-Adria Universität Klagenfurt*, Klagenfurt, Austria, May/June 2008.

- Tutorial: "Visual Information Retrieval", IASTED International Conference on Internet and Multimedia Systems and Applications (EuroIMSA) 2008, March 2008, Innsbruck, Austria.

- Short course: "Visual Information Retrieval", CEFET-PR, Curitiba-PR, Brazil, July 2003.

- Tutorial: "Video Databases: design and applications", *IASTED International Conference on Databases and Applications*, Innsbruck, Austria, February 2003.

Other Invited Lectures and Presentations (selected, 2008 – present)

- Lecture: "The Artificial Intelligence Revolution in Medicine: Technology, Risks, Applications, and Implications", Osher Lifelong Learning Institute (OLLI), Florida Atlantic University, Boca Raton, March 2020. (*upcoming*)

- Lecture: "The Artificial Intelligence Revolution in Medicine: Technology, Risks, Applications, and Implications", Osher Lifelong Learning Institute (OLLI), Broward Center for the Performing Arts, Fort Lauderdale, March 2020. (*upcoming*)

- Invited talk: "Artificial Intelligence in Healthcare: promises, perils, and a pathway to improving patient outcomes", *FAU College of Medicine*, January 2020.

- Lecture: "Artificial Intelligence and the Future of Society: Technological and Ethical Concerns", Osher Lifelong Learning Institute (OLLI), Florida Atlantic University, Boca Raton, January 2020.

- Lecture: "Human Augmentation: technology, applications and implications", Osher Lifelong Learning Institute (OLLI), Florida Atlantic University, November 2019.

- Invited talk: "Human Augmentation", part of the *FAU Division of Research "Research in Action" Series*, Boca Raton Public Library, November 2019.

- Lecture: "Advancements in artificial intelligence: technology, risks, applications and implications", St. Andrews Estates, Boca Raton, November 2019.

- Invited talk: "Advancements in Artificial Intelligence (AI) in Healthcare", Florida State University, Tallahassee, FL, October 2019.

- Invited talk: "ACR AI-Lab for radiology: an overview", European Society of Medical Imaging Informatics (EuSoMII) Annual Meeting, Valencia, Spain, October 2019.

- Lecture: "Advancements in artificial intelligence: technology, risks, applications and implications", Bellaggio, Lake Worth, October 2019.

- Lecture: "Advancements in artificial intelligence: technology, risks, applications and implications", Lifelong Learning Society (LLS), Florida Atlantic University, March 2019.

- Lecture: "Face recognition by humans and computers", St. Andrews Estates, Boca Raton, January 2019.

- Lecture: "Self-driving cars, robot radiologists, and more: how artificial intelligence is changing the world forever", Delaire Country Club, Delray Beach, January 2019.

- Invited talk: "Using games to solve challenging multimedia problems", St. Pölten University of Applied Sciences, St. Pölten, Austria, December 2018.

- Invited talk: "Medical image analysis using deep learning", *Technische Universität Wien*, Vienna, Austria, December 2018.

- Guest lecture: "Machine Learning and Applications", *FH Campus Wien*, University of Applied Sciences, Vienna, Austria, December 2018.

- Invited talk: "Medical image analysis using deep learning", Johns Hopkins University, Baltimore, MD, November 2018.

- Guest lecture: "Introduction to medical image analysis using deep learning", Johns Hopkins University, Baltimore, MD, November 2018.

- Invited talk: "Medical image analysis and medical information retrieval, with and without deep learning", Lister Hill National Center for Biomedical Communications, National Library of Medicine (NLM), National Institutes of Health (NIH), Bethesda, MD, October 2018.

- Invited talk: "The Artificial Intelligence revolution in Medicine: technology, risks, applications and implications", *Université d'Orléans*, Orléans, France, September 2018.

- Invited talk: "Machine Learning and its applications", Vlatacom Institute, Belgrade, Serbia, August 2018.

- Invited talk: " Can you trust what you see? The magic of visual perception", University of Belgrade, Serbia, August 2018.

- Panel presentation: "Challenges and Opportunities in Deep Learning", Deep Learning Mini-Symposium, part of the 2018 MathWorks Research Summit, Newton, MA, June 2018.

- Panel presentation: "Explainable AI and the Future of Medicine", 2018 MathWorks Research Summit, Newton, MA, June 2018.

- Invited talk: "Adventures in Image Processing, Machine Learning and Deep Learning using MATLAB", MathWorks' Development Knowledge Forum (DKF) seminar series, MathWorks headquarters, Natick, MA, June 2018.

- Invited talk: "Using games to solve challenging multimedia problems," Wichita State University, Wichita, KS, April 2018.

- Lecture: "Self-driving cars, robot radiologists, and more: how artificial intelligence is changing the world forever", Lifelong Learning Society (LLS), Florida Atlantic University, March 2018.

- Lecture: "Looking through the artist's eyes", Lifelong Learning Society (LLS), Florida Atlantic University, March 2018.

- Lecture: "Visual intelligence: learning how to sharpen our perception of the world", Lifelong Learning Society (LLS), Florida Atlantic University, December 2017.

- Lecture: "Face recognition by humans and computers", St. Andrews Estates, Boca Raton, October 2017.

- Invited talk: "Using games to solve challenging multimedia problems," U.S. Army Corps of Engineers Engineering Research and Development Center (ERDC), Vicksburg, MS, June 2017.

- Colloquium: "Advances and Challenges in Vision Science", *Alpen-Adria Universität Klagenfurt*, Klagenfurt, Austria, May 2017.

- Public lecture: "Can you trust what you see? The magic of visual perception", *Technische Universität Wien*, Vienna, Austria, May 2017.

- Invited talk: "Machine Learning and Applications", Indian Institute of Information Technology and Management, Kerala (IIITM-K), Trivandrum, India, December 2016.

- Lecture: "Face recognition by humans and computers", Lifelong Learning Society (LLS), Florida Atlantic University, November 2016.

- Lecture: "Visual intelligence: learning how to sharpen our perception of the world", St. Andrews Estates, Boca Raton, October 2016.

- Lecture: "Can you trust what you see? The magic of visual perception", St. Andrews Estates, Boca Raton, August 2016.

- Invited talk: "Intelligence Processing of Visual Information: Research Overview", University of North Carolina, Charlotte-NC, August 2016.

- Lecture: "Can you trust what you see? The magic of visual perception", Edgewater Pointe Estates, Boca Raton, July 2016.

- Colloquium: "Can you trust what you see? The magic of visual perception", *Alpen-Adria Universität Klagenfurt*, Klagenfurt, Austria, May 2016.

- Lecture: "Can you trust what you see? The magic of visual perception", West Boca Medical Center Annual Staff Meeting, Boca Raton, May 2016.

- Lecture: "Can you believe your eyes? What visual illusions can teach us about our brains", Lifelong Learning Society (LLS), Florida Atlantic University, March 2016.

- Lecture: "Can you trust what you see? The magic of visual perception", Lifelong Learning Society (LLS), Florida Atlantic University, December 2015.

- Invited talk: "Promoting Digital Fluency on Campus", *Teaching with Technology Showcase*, Florida Atlantic University, Jupiter-FL, April 2015.

- Invited talk: "Image Processing and Computer Vision in iOS", iOS Day, *Universidade Federal do Triângulo Mineiro (UFTM)*, Uberaba, Brazil, December 2013.

- Colloquium: "Using games to improve computer vision solutions", *Alpen-Adria Universität Klagenfurt*, Klagenfurt, Austria, May 2013.

- Invited talk: "Image retrieval: challenges and opportunities", UTFPR, Curitiba-PR, Brazil, June 2012.

- Invited talk: "Mobile Visual Search", *Universitat Politècnica de Catalunya* (UPC), Barcelona, Spain, March 2012.

- Colloquium: "Mobile Visual Search", *Alpen-Adria Universität Klagenfurt*, Klagenfurt, Austria, January 2012.

- Dinner speech: "Adventures in Visual Perception", MMM 2012, Klagenfurt, Austria, January 2012.

- Invited talk: "Image search and retrieval: where are we now?", Delft University of Technology, Delft, the Netherlands, October 2010.

- Invited talk: "20 years of adventure in image processing: it all started here!", PEIAA "Sharing Experiences" @ 50+ Years of PII Conference, Eindhoven University of Technology, Eindhoven, the Netherlands, September 2010.

- Colloquium: "Recent Advances in Visual Information Retrieval", *Alpen-Adria Universität Klagenfurt*, Klagenfurt, Austria, June 2010.

- Invited talk: "State of the art in image search and retrieval", *WISMA 2010*, Barcelona, May 2010.

- Invited talk: "Promising avenues for interdisciplinary research in vision", *Universidade Estadual de Campinas (UNICAMP)*, Campinas, Brazil, March 2010.

- Invited talk: "Promising avenues for interdisciplinary research in vision", *Universidade Federal de Goiás (UFG)*, Goiania, Brazil, March 2010.

- Colloquium: "Promising avenues for interdisciplinary research in vision", *Alpen-Adria Universität Klagenfurt*, Klagenfurt, Austria, June 2009.

- Invited talk: "Visual Information Retrieval", UTFPR, Curitiba-PR, Brazil, July 2008.

- Invited talk: "Image organization, annotation, and retrieval from a human-centered perspective", MIMOS, Kuala Lumpur, Malaysia, July 2008.

- Invited talk: "The role of semantics in multimedia information retrieval", MIMOS, Kuala Lumpur, Malaysia, July 2008.

- Invited talk: "Visual Information Retrieval: challenges and opportunities", MIMOS, Kuala Lumpur, Malaysia, July 2008.

- Invited talk: "Image organization, annotation, and retrieval from a human-centered perspective", TU Graz, Graz, Austria, May 2008.

- Colloquium: "Image retrieval using computational models of visual attention", *Alpen-Adria Universität Klagenfurt*, Klagenfurt, Austria, May 2008.

Professional Service (selected)

- Reviewer for science and technology funding agencies, including Austrian Science Fund (FWF), Hong Kong's Innovation and Technology Commission, and the Netherlands Organisation for Scientific Research (NWO)

- Member / Panelist of the *MIT Technology Review* Global Panel (2019 – present)

- Reviewer for scientific journals, including:

    o ACM Transactions on Multimedia Computing Communications and Applications

    o Computer Methods and Programs in Biomedicine

- o *EURASIP Journal on Image and Video Processing*
- o IEEE Journal of Biomedical and Health Informatics
- o *IEEE Transactions on Circuits and Systems for Video Technology*
- o *IEEE Transactions on Image Processing*
- o *IEEE Transactions on Learning Technologies*
- o *IEEE Transactions on Multimedia*
- o IEEE Transactions on Cybernetics
- o IET Computer Vision
- o Journal of Digital Imaging
- o Multimedia Tools and Applications
- o *Pattern Recognition*
- o *PLOS ONE*
- o *SPIE Journal of Medical Imaging*

Conference / Workshop Organization (selected, 2003 – present)

- Program Chair and Editor for the proceedings of the Fifth International Symposium on Signal Processing and Intelligent Recognition Systems (SIRS'19), Trivandrum, India, December 18-21, 2019.

- Advisory Committee Member and Reviewer, 8th International Conference on Advances in Computing, Communications and Informatics (ICACCI), Trivandrum, India, December 18-21, 2019.

- Program Committee Co-Chair, IEEE International Conference on Advanced Computing (ICACC 2018), New Delhi, India, December 22-23, 2018.

- General Chair, Fourth International Symposium on Signal Processing and Intelligent Recognition Systems (SIRS'18), Bangalore, India, September 19-22, 2018.

- Advisory Committee Member and Reviewer, 7th International Conference on Advances in Computing, Communications and Informatics (ICACCI), Bangalore, India, September 19-22, 2018.

- Technical Program Committee Member and Reviewer, 26th European Signal Processing Conference (EUSIPCO), Rome, Italy, September 3–7, 2018.

- Reviewer, Program Committee Member, and Liaison for the Americas, International Workshop on Content-Based Multimedia Indexing (CBMI 2018), La Rochelle, France, September 4-6, 2018.

- Organizer and Co-chair of the Special Track on "Medical Image and Video Analysis Using Deep Learning," 31st IEEE CBMS International Symposium on Computer-Based Medical Systems (CBMS), Karlstad, Sweden, June 18-21, 2018.

- Reviewer, ACM Multimedia Systems Conference – *Open datasets and software track*, Amsterdam, June 12 - 15, 2018.

- Technical Program Committee Member and Reviewer, IEEE 7th International Conference on Image Processing Theory, Tools and Applications (IPTA 2017), Montreal, Canada, Nov 28 – Dec 1, 2017.

- Technical Program Committee Member and Reviewer, SBGames (*XVI Simpósio Brasileiro de Jogos e Entretenimento Digital*) 2017, Curitiba, Brazil, Nov 2-4, 2017.

- Reviewer, 6th International Conference on Advances in Computing, Communications and Informatics (ICACCI), Manipal University, Karnataka, India, September 13-16, 2017.

- General Chair, Fourth International Symposium on Computer Vision and the Internet (VisionNet'17), Manipal University, Karnataka, India, September 13-16, 2017.

- Reviewer, Medical Image Computing and Computer Assisted Intervention (MICCAI) 2017, Sep 10-14, 2017, Quebec, Canada.

- International Program Committee Member, First IEEE International Conference on Advanced Computational and Communication Paradigms (ICACCP), Majitar, India, September 8-10, 2017.

- Technical Program Committee Member and Reviewer, *ACM Multimedia Systems (MMSys) 2017*, Taipei, Taiwan, June 20-23, 2017.

- Reviewer, Program Committee Member, and Liaison for the Americas, International Workshop on Content-Based Multimedia Indexing (CBMI 2017), Firenze, Italy, June 19-21, 2017.

- Reviewer and Program Committee Member, ACM International Conference on Multimedia Retrieval (ICMR 2017), Bucharest, Romania, June 6-9, 2017.

- Program Chair, Third International Symposium on Computer Vision and the Internet (VisionNet'16), Jaipur, India, September 2016.

- Steering Committee Member, International Conference on Applied Soft Computing and Communication Networks (ACN), Jaipur, India, September 2016.

- Steering Committee Member, 5th International Conference on Advances in Computing, Communications and Informatics (ICACCI), Jaipur, India, September 2016.

- Reviewer and Program Committee Member, 14th International Workshop on Content-Based Multimedia Indexing (CBMI 2016), Bucharest, Romania, June 2016.

- Reviewer, *IEEE SoutheastCon* 2016, Norfolk, VA, March-April 2016.

- Technical Program Committee Member, 8th International Conferences on Advances in Multimedia (MMEDIA 2016), Lisbon, Portugal, February 21 - 25, 2016

- Advisory Committee Member, 2nd International Symposium on Signal Processing and Intelligent Recognition Systems (SIRS'15), Trivandrum, India, December 2015.

- Reviewer and Program Committee Member, 13th International Workshop on Content-Based Multimedia Indexing, Prague, Czech Republic, June 2015.

- Reviewer, *IEEE SoutheastCon* 2015, Fort Lauderdale, FL, April 2015.

- Co-chair for the Doctoral Symposium, ACM International Conference on Multimedia 2014 (Orlando, FL, November 2014).

- Reviewer and Program Committee Member, 10th Brazilian Computer Vision Workshop (WVC 2014), Uberlandia, Brazil, October 2014.

- Reviewer and Program Committee Member, 12th International Workshop on Content-Based Multimedia Indexing, Klagenfurt, Austria, June 2014.

- Reviewer and Program Committee Member, 2nd International Workshop on Interactive Content Consumption (WSICC), co-located with TVX 2014 (ACM International Conference on Interactive Experiences for TV and Online Video), Newcastle upon Tyne, UK, June 2014.

- US Liaison and Technical Program Committee Member, 18th International Conference on MultiMedia Modeling (MMM 2012), Klagenfurt, Austria, January 4-6, 2012.

- Technical Program Committee Member, 1st Workshop on Multimedia on the Web (MMWeb 2011), in conjunction with i-Know and i-Semantics 2011, 8th Sept.2011, Graz, Austria.

- 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).

- Co-chair, Workshop on Wireless Multimedia, part of the IEEE Sixth International Symposium on Multimedia Software Engineering (Miami, FL, December 2004).

- Organizer and co-chair of a special track on *Image and Video Databases* for the ACM SAC 2003 (Melbourne, FL, March 2003).

PhD committees

- PhD committee member for Mr. Arash Golchubian, "*Machine Learning Techniques for Autonomous Systems*", Advisor: Dr. Mehrdad Nojoumian, Department of Computer & Electrical Engineering and Computer Science, FAU (*in progress*).

- PhD committee member for Mr. José Garcia, "*Deep Learning Techniques for Educational Systems*", Advisor: Dr. Maria Petrie, Department of Computer & Electrical Engineering and Computer Science, FAU (*in progress*).

- PhD committee member for Mr. Stepan Mazokha, "*Smart sensors*", Advisor: Dr. Jason Hallstrom, Department of Computer & Electrical Engineering and Computer Science, FAU (*in progress*).

- PhD committee member for Mr. Robert Fennell, "*Biological imaging, detection and processing*", Advisor: Dr. Waseem Ashgar, Department of Computer & Electrical Engineering and Computer Science, FAU (*in progress*).

- External reviewer and PhD committee member for the PhD thesis of Mr. Alexander Pacha, "*Optical Music Recognition*", Advisor: Dr. Horst Eidenberger, *Technische Universität Wien*, Vienna, Austria (2019).

- External reviewer for the PhD thesis of Ms. Rashmi Panda, "*Fundus Image Analysis Algorithms for Automated Glaucoma Detection*", Advisor: Dr. Ganapati Panda, Indian Institute of Technology Bhubaneswar, India (2018).

- External reviewer for the PhD thesis of Mr. Saadat Hanif Dar, "*Optimal flexible antenna designs for future WBAN*", Advisor: Dr. Jamil Ahmed, Riphah International University, Pakistan (2018).

- PhD committee member for Ms. Deepti Pappusetty, "*Human visual perception and video processing*", Advisor: Dr. Hari Kalva, Department of Computer & Electrical Engineering and Computer Science, FAU (2017).

- External reviewer for the PhD thesis of Mr. Khurram Zeeshan Haider, "*Intelligent Gender Identification Using Diverse Facial Features in Different Conditions*", Advisor: Dr. Tabassam Nawaz, University of Engineering and Technology Taxila, Pakistan (2017).

- External reviewer for the PhD thesis of Mr. Zahid Mehmood, "*An Intelligent Sparse Visual Feature Descriptors for Content Based Image Retrieval*", Advisor: Syed Muhammad Anwar, University of Engineering and Technology Taxila, Pakistan (2016).

- External reviewer for the PhD thesis of Mr. Toqeer Mehmood, *"Forgery Detection in Digital Images Using Computational Intelligence"*, Advisor: Dr. Tabassam Nawaz, University of Engineering and Technology Taxila, Pakistan (2016).

- External reviewer and PhD committee member for Mr. Derrick Schlangen, *"The role of peripheral vision in building scene representations"*, Advisor: Dr. Elan Barenholtz, Department of Psychology, FAU (2016).

- External reviewer for the PhD thesis of Mr. Nouman Ali, *"Image Retrieval Using Visual Image Features and Automatic Image Annotation"*, Advisor: Dr. Khalid Bashir Bajwa, University of Engineering and Technology Taxila, Pakistan (2016).

- External reviewer and PhD committee member for Mr. Nicolas Bertrand, *"Content Delivery Network for Digital Cinema"*, Advisor: Dr. Jean-Denis Durou, ENSEEIHT Engineering School, University of Toulouse, France (2015).

- PhD committee member for Mr. Diego Pava, "*Transmitter-receiver system for time average Fourier telescopy*", Advisor: Dr. William T. Rhodes, Department of Computer & Electrical Engineering and Computer Science, FAU (2014).

- President of the jury and external reviewer for Mr. Axel Carlier, "*Combining content analysis with usage analysis to better understand visual contents*", Advisor: Dr. Vincent Charvillat, ENSEEIHT Engineering School, University of Toulouse, France (2014).

- PhD committee member for Mr. Branko Petljanski, "*Image Improvement Using Dynamic Optical Low-Pass Filter*", 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 Mr. 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 Böszörmenyi, ITEC, Klagenfurt University, Klagenfurt, Austria (2009).

- External reviewer and PhD committee member for Ms. 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 Mr. 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 Mr. 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 Mr. Praveen Sanigepalli, "*Innovative Video Error Resilient Techniques for MBMS Systems*", Advisor: Dr. Hari Kalva, Department of Computer Science and Engineering, FAU (2005).

Service to the Institution (selected, 1999 – present)

Department of Computer and Electrical Engineering and Computer Science

- Library Liaison (2007-2011, 2012-2017, and 2019 – present)

- Executive Committee (2003-2005 and 2009-2018)

- Undergraduate CS Program Committee (2008-2009, 2013-2018 (*Chair*))

- Instructor Search Committee (2017)

- Personnel Committee (2009-2010 and 2013-2016)

- Undergraduate CE Program Committee (2001-2002 and 2013-2015)

- Associate Chair (2009-2014)

- ABET Coordinator for Computer Engineering (2012-2014)

- Class Scheduling Committee (2009-2014)

- TA/GA Committee (2002-2008 and 2009-2011 and 2012-2013)

- Research Committee (2009-2011)

- Student Affairs Committee (2009-2010)

- Coordinator of the CSE PhD Qualifying Exam (2006-2009)

- Academic advisor for CSE graduate students with minor in Business (2006-2009)

- Graduate Programs Committee (2002-2009)

- Internet Technology MS Committee (2001-2002)

College of Engineering and Computer Science

- Undergraduate Program Committee (2012-2013, 2014-2015, and 2016-2018)

- CP&D Committee (2015-2017)

- Petitions Committee (2012-2015)

- Innovation Leadership Program Committee (2012-2014)

- Research Committee (2008-2011)

- Faculty co-advisor for the FAU Beta Chapter of the *Upsilon Pi Epsilon* (UPE) (2004 – 2011)

- Personnel Committee (2009-2010)

- Faculty advisor for the FAU Chapter of the *Society of Hispanic Professional Engineers* (SHPE) (2001-2008)

Florida Atlantic University

- University Faculty Senate (UFS) Library Advisory Committee (2012-2017 and 2019-present)

- OIT (Office of Information Technology) Advisory Committee (2009-2011, 2015-2018, and 2019-present)

- Mindfulness Working Group (under the *Peace, Justice, and Human Rights* initiative – Office of the Provost) (2017-present)

- Hispanic-serving Institutions (HSI) Research Interest Group (under the *Division of Research*) (2017-present)

- Canvas Governance Committee (under the *Office of Information Technology*) (2016–2017)

- Center for eLearning (CeL) Advisory Board Committee (2011-2017)

- Academic Committee of the *Judaica Sound Archives* at Florida Atlantic University Libraries (2004 – 2011)

- President's Office eLearning Committee and Taskforce (2010)

- OIT (Office of Information Technology), Instructional Designer Search Committee (2010)

- College of Arts & Letters, School of Communication and Multimedia Studies, Faculty Search Committee (2008-2009 and 2009-2010)

- University Faculty Senate (UFS) Distance Education Committee (2009-2010)

- University Faculty Senate: Senator (*elected*) (2006-2008)

- Coordinator of the International Cooperation Agreement between FAU and UTFPR (Brazil) (1999 – 2008)

Editorial Activities

- Editor-in-Chief (with Borko Furht), *Encyclopedia of Multimedia, 3rd ed.* Springer, 2021.

- Editorial Board member of the journal *Multimedia Tools and Applications*, Springer.

- Associate Editor, *SET International Journal of Broadcast Engineering*, Brazilian Society of Television Engineering.

- Guest Co-Editor, Special issue on Wireless Multimedia, *Multimedia Tools and Applications*, Springer, Volume 28, Number 1, February 2006.

Publications (selected, 1998 - present)

Summary: **one patent**, **10+ books**, **20+ refereed international journal publications**, **70+ refereed papers in scientific conferences**, and several book chapters, invited papers, and other publications.

Publications reflect collaborations with different teams of authors/editors and have led to **2695 citations**, an **h-index of 25**, and an **i10-index of 49** (*source: Google Scholar, last update: Jan 30, 2020*).

Patent (issued)

- **O. Marques**, L.M. Mayron, and G.B. Borba, "System and Methods of Image Retrieval", Apr. 26 2011. US Patent 7,933,452.

Books (13)

1. **O. Marques** and H. Vieira Neto, "Processamento Digital de Imagens" ("Digital Image Processing") (*in Portuguese*), *Editora Brasport*, Rio de Janeiro, Brazil, 1999.

2. **O. Marques** and B. Furht, "Content-Based Image and Video Retrieval", *Kluwer Academic Publishers*, Norwell, MA, 2002.

3. B. Furht and **O. Marques** (editors), "Handbook of Video Databases", *CRC Press*, Boca Raton, FL, 2004.

4. **O. Marques**, "Practical Image and Video Processing Using MATLAB®", *Wiley-IEEE Press*, New York, NY, 2011.

5. M. Lux and **O. Marques**, "Visual Information Retrieval Using Java and LIRE", *Morgan & Claypool*, 2013.

6. **O. Marques**, "Practical Image and Video Processing Using MATLAB" (*in Chinese*), *Tsinghua University Press / John Wiley & Sons*, 2013.

7. A. Colic, **O. Marques**, and B. Furht, "Driver Drowsiness Detection Systems and Solutions", Springer, 2014.

8. J. Gibson and **O. Marques**, "Optical Flow and Trajectory Estimation Methods", Springer, 2016.

9. **O. Marques**, "Innovative Technologies in Everyday Life", Springer, 2016.

10. B. Stojanović, **O. Marques** and A. Nešković, "Segmentation and separation of overlapped latent fingerprints: algorithms, techniques, and datasets", Springer, 2019.

11. **O. Marques**, "Image Processing and Computer Vision for iOS", Springer, 2020 (*to appear*).

12. B. Furht and **O. Marques** (editors), "Encyclopedia of Multimedia", 3rd edition, Springer (*in preparation*).

13. **O. Marques** and D. Zysman, "Image Processing Recipes Using MATLAB®" (*in preparation*).

Refereed Journal Papers (28)

1. 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.

2. **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.

3. B. Satterwhite and **O. Marques**, "Automatic Detection of Television Commercials", *IEEE Potentials,* Vol. 23, No. 2, pp. 9-12, April/May 2004.

4. **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.

5. **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.

6. **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.

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.

8. 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.

9. 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.

10. M. Lux, **O. Marques**, K. Schöffmann, L. Böszörmenyi, G. Lajtai, "A Novel Tool for Summarization of Arthroscopic Videos", *Multimedia Tools and Applications*, 2009, DOI: 10.1007/s11042-009-0353-1.

11. K. Schöffmann, F. Hopfgartner, **O. Marques**, L. Böszörmenyi, and J.M. Jose, "A Review on Video Browsing Interfaces and Applications", *SPIE Reviews* 1, 018004 (2010), DOI: 10.1117/6.0000005.

12. M. Lux, A. Pitman, and **O. Marques**, "Can Global Visual Features Improve Tag Recommendation for Image Annotation?", *Future Internet Journal* 2010, 2(3), 341-362; DOI:10.3390/fi2030341

13. L. Böszörmenyi, M. del Fabro, M. Kogler, M. Lux, **O. Marques**, and A. Sobe, "Innovative directions in self-organized distributed multimedia systems", *Multimedia Tools and Applications*, 2010, DOI: 10.1007/s11042-010-0622-z.

14. **O. Marques**, E. Barenholtz, and V. Charvillat, "Context modeling in computer vision: techniques, implications, and applications", *Multimedia Tools and Applications*, 2010, DOI: 10.1007/s11042-010-0631-y.

15. A. Marcus and **O. Marques**, "An Eye on Visual Sensor Networks", *IEEE Potentials,* April 2012, 31(2), 38-43, DOI: 10.1109/MPOT.2011.2178279.

16. S. Chatzichristofis, C. Iakovidou, Y. Boutalis, and **O. Marques**, "Co.Vi.Wo.: Color Visual Words Based on Nonpredefined Size Codebooks", *IEEE Transactions on Systems, Man, and Cybernetics. Part B, Cybernetics*, July 2012, DOI: 10.1109/TSMCB.2012.2203300

17. S. Chatzichristofis, L. Bampis, **O. Marques**, M. Lux, and Y. Boutalis. "Image Encryption using the Recursive Attributes of the eXclusive-OR Filter", *Journal of Cellular Automata*, Volume 9, Issue 2-3, 2014, pp 125–137.

18. A. Carlier, A. Salvador, X. Giro-i-Nieto, V. Charvillat, and **O. Marques**, "Assessment of Crowdsourcing and Gamification Loss in User-Assisted Object Segmentation". *Multimedia Tools and Applications*, September 2015, DOI: 10.1007/s11042-015-2897-6.

19. J. Gibson and **O. Marques**, "Sparsity in Optical Flow and Trajectories", *Signal, Image and Video Processing*, March 2016, Volume 10, Issue 3, pp 487-494.

20. B. Stojanović, A. Nešković and **O. Marques**, "A novel neural network based approach to latent overlapped fingerprints separation". *Multimedia Tools and Applications*, June 2016, DOI: 10.1007/s11042-016-3696-4

21. B. Stojanović, **O. Marques** and A. Nešković, "Latent overlapped fingerprint separation: a review". *Multimedia Tools and Applications* (2016). DOI:10.1007/s11042-016-3908-y

22. M. Taschwer and **O. Marques**, "Automatic Separation of Compound Figures in Scientific Articles". *Multimedia Tools and Applications* (2016). DOI: 10.1007/s11042-016-4237-x

23. C. Lagger, M. Lux, and **O. Marques**. "What Makes People Watch Online Videos: An Exploratory Study". *ACM Comput. Entertain.* 15, 2, Article 6 (2017), 31 pages. https://doi.org/10.1145/3034706.

24. S. S. Barpanda, P.K. Sa, **O. Marques**, B. Majhi, and S. Bakshi, "Iris Recognition with Tunable Filter Bank Based Feature", *Multimedia Tools and Applications* (2017). DOI: 10.1007/s11042-017-4668-z

25. J. Burdick, **O. Marques**, J. Weinthal, and B. Furht, "Rethinking Skin Lesion Segmentation in a Convolutional Classifier", *Journal of Digital Imaging* (2017) https://doi.org/10.1007/s10278-017-0026-y

26. B. Stojanović, **O. Marques**, and A. Nešković, "Deep learning-based approach to latent overlapped fingerprints mask segmentation", *IET Image Processing Journal* (2018). DOI: 10.1049/iet-ipr.2017.1227

27. C. Garbin, X. Zhu, and **O. Marques**, "Dropout vs. Batch Normalization: An Empirical Study of Their Impact to Deep Learning" *Multimedia Tools and Applications* (2020). DOI: 10.1007/s11042-019-08453-9

28. L. Zaniolo and **O. Marques**, "On the Use of Variable Stride in Convolutional Neural Networks" (*to appear*)

Refereed Conference Proceedings (79)

1. **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.

2. **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.

3. **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.

4. **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.

5. **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.

6. **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.

7. **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.

8. F.M. 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.

9. 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.

10. 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.

11. 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.

12. **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.

13. **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.

14. 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.

15. **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.

16. 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.

17. 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.

18. 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.

19. **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.

20. L. Christodoulou, L.M. 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.

21. 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.

22. **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.

23. 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.

24. 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.

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.

26. 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.

27. 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.

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