Francesco BIANCONI
Curriculum vitae

Office
Department of Engineering
Università degli Studi di Perugia
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Personal details

Born: 17 July 1971, Perugia, Italy
Gender: Male
Citizenship: Italian

Education

University degrees

- Doctor of Philosophy, *Computer-aided Mechanical Design*
  Università degli Studi di Perugia, Perugia, Italy — Jan. 2001
- Master of Engineering, *Mechanical Engineering*
  Università degli Studi di Perugia, Perugia, Italy — Apr. 1997

Other courses

- *Applied Data Science Specialization*, IBM/Coursera — Jun. 2020

Languages

- English: Advanced
  - Cambridge CB CAE (grade A – 81/100) — Apr. 2013
  - iBT TOEFL (104/120) — Dec. 2011
- Spanish: Advanced
  - DELE intermediate (95/100) — May 2006
- Italian: Native

IT & Programming skills

- Programming languages & VCS
  - C, C++, Java, Python and Git
- Digital typesetting & office automation
  - Microsoft Excel, Microsoft Word and LaTeX
- Scientific packages & data visualisation tools
  - Matlab, Mathematica and Tableau
- CAD/CAE
  - Autodesk AutoCAD, Autodesk Inventor and SolidWorks

Employment

- *Associate professor*, Department of Engineering, Università degli Studi di Perugia, Italy
  Jul. 2015–present
- *Assistant professor*, Department of Engineering, Università degli Studi di Perugia, Italy
  Nov. 2000–Jun. 2015
- *CAD Engineer* (internship), Umbra Cuscinetti SpA, Foligno (Italy) Oct.–Nov. 1998
- *Secondary school teacher* (Textile Technologies), Istituto Professionale Statale per l'Industria e L'Artigianato, Perugia (Italy) Dec. 1997–Jun. 1998
- *Secondary school teacher* (Civil and Industrial Plants), Istituto Tecnico Statale per Geometri, Perugia (Italy) Dec. 1997–Jun. 1998
- *Secondary school teacher* (Applied Mechanics), Istituto Tecnico Industriale Statale, Foligno (Italy)
  Jun.–Jul. 1997

Visiting positions

- *Academic visitor*, School of Mathematics, Computer Science and Engineering; City, University of London, United Kingdom Sep.–Dec. 2018
- *Academic visitor*, School Electronic Engineering and Computer Science; Queen Mary, University of London, United Kingndom Sep.–Dec. 2015
- *Visiting research fellow*, School of Computing Sciences; University of East Anglia, United Kingdom
  Oct.–Dec. 2010
- *Visiting researcher*, School of Industrial Engineering, Department of Engineering Design; Universidade de Vigo, Spain Jun.–Jul. 2009
  Sep. 2007
  Sep. 2006
  Sep. 2005

Teaching

Undergraduate courses

- *Computer skills* (2 CFU[1]), Università degli Studi di Perugia, Department of Engineering, BEng Mechanical Engineering 2012–present
- *Technical Drawing* (5 CFU) + *Computer skills* (2 CFU), Università degli Studi di Perugia, Department of Engineering, BEng Industrial Engineering 2005–present
- *Technical Drawing* (6 CFU) + *Computer skills* (2 CFU), Università degli Studi di Perugia, Department of Engineering, BEng Management Engineering 2017–present
- *Machine Drawing* (10 CFU) + *Computer skills* (2 CFU), Università degli Studi di Perugia, Department of Engineering, BEng Mechanical Engineering 2008–2012
- *Machine Drawing* (6 CFU) Università degli Studi di Perugia, Department of Engineering, BEng Mechanical Engineering 2000–2007
- *Technical Drawing* (5 CFU) Università degli Studi di Perugia, Department of Engineering, BEng Materials Engineering 2000–2004
- *CAD Laboratory* (2 CFU) Università degli Studi di Perugia, Department of Engineering, BEng Materials Engineering 2003–2005

Post-graduate courses

- *Product Design and Development* (6 CFU), Università degli Studi di Perugia, Department of Engineering, MEng Industrial Engineering 2009–2010
- *Design Methods of Industrial Engineering* (6 CFU), Università degli Studi di Perugia, Department of Engineering, MEng Mechanical Engineering 2008–2009

Post-master courses and continuous education

- *Computer-aided Design* (2,75 CFU), Università degli Studi di Perugia, Graduate Teacher Training Programme 2005
- *Computer-aided Design* (4 CFU), Università degli Studi di Perugia, Faculty of Engineering post-master course in Materials Engineering 2004
- *Technical Drawing I* (1,75 CFU), Università degli Studi di Perugia, Graduate Teacher Training Programme 2002
- *Technical Drawing II* (2 CFU), Università degli Studi di Perugia, Graduate Teacher Training Programme 2003

[1] Stands for *Credito Formativo Universitario*. This is the unit used in the Italian higher education system to measure and assess the student's work and effort. The minimum number of required credits is 180 for a Bachelor's and 120 for a Master's degree.

Short courses

- *Fundamentals of Engineering Drawing: Theory and Applications* (10h), FAIST Componenti S.p.A, Montone, Italy, Feb. 2011
- *Fundamentals of Pattern Recognition and Image Processing* (10h), Universidade de Vigo, Spain, Doctoral Programme in Environmental Engineering Jun. 2009
- *Introduction to Technical Drawing* (15h), Black & Decker Italia, Corciano, Italy Dec. 2008–Jan. 2009
- *Introduction to CAD/CAE* (10h), Master in Virtual Engineering, ITT s.c.a.r.l, Umbertide, Italy 2005
- *Introduction to Object-oriented Programming in C/C++*, Università degli Studi di Perugia, Italy, Doctoral Programme in Industrial Engineering Apr.–May 2004

Teaching in Erasmus interchange programmes

- *Expresión Gráfica* (Technical Drawing, 6h). BSc Energy Engineering and Mining, and BSc Energy Resources and Engineering, Universidade de Vigo, Spain Dec. 2013
- *Expresión Gráfica* (Technical Drawing, 6h). BSc Engineering of Industrial Technologies, BSc Management Engineering, BSc Electrical Engineering, BSc Mechanical Engineering, BSc Industrial Automation and Electronic Engineering, and BSc Industrial Chemical Engineering, Universidade de Vigo, Spain Jan. 2012
- *Expresión Gráfica* (Technical Drawing, 8h). BSc in Industrial Engineering, Universidade de Vigo, Spain Apr. 2019

Talks

- *Advances in modelling and analysis of the human body by computational imaging* (with G. Pascoletti). Keynote lecture, 2nd International Congress on Engineering Sciences and Multidisciplinary Approaches, Istanbul, Turkey 18 Sep. 2021
- *Radiomics in medical imaging: an overview*. Invited talk, IET Webinar Recent advances in Medical Image Analysis 25 Jun. 2021
- *Texture and colour descriptors for visual recognition: historical overview and applications to computer vision and robotics*. Keynote lecture, The 2020 International Conference on Control, Automation and Diagnosis (ICCAD'20), Paris, France 7 Oct. 2020
- *Role of artificial intelligence techniques (automatic classifiers) in molecular imaging modalities in neurodegenerative diseases* (with B. Palumbo). Invited talk, short course in Big Data, Radiomics & Artificial Intelligence; Italian Association for Medical Physics (AIFM), Reggio Emilia, Italy 15-16 Dec. 2017
- *Towards a procedural model for CAD data exchange*; 5th workshop on Design Tools and Methods in Industrial Engineering, Pisa, Italy, 21-23 Mar. 2005

- *Collaborative CAD modeling and construction of augmented CAD models*; 4th workshop on Design Tools and Methods in Industrial Engineering, Erice, Italy 29 Sep.–1 Oct. 2003
- *Approaches for integration of CAD/CAM/CAE systems*; 3rd Workshop on Design Tools and Methods in Industrial Engineering, Firenze, Italy 27-28 Jun. 2002
- *Interface-based methods for data exchange among CAx systems*; 2nd Workshop on Design Tools and Methods in Industrial Engineering, Perugia, Italy 5-6 Jul. 2001
- *Collaborative design and data exchange through STL files*; 1st Workshop on Design Tools and Methods in Industrial Engineering, Parma, Italy Sep. 2000

Seminars

- *Texture and colour descriptors for visual recognition: an overview of methods applications*. Doctoral programme in Industrial and Information Engineering, Università degli Studi di Perugia, Italy 23 Jun. 2021
- *Hand-designed descriptors vs. pre-trained convolutional networks: a comparison of two strategies for colour texture classification*. School of Mathematics, Computer Science and Engineering; City, University of London, United Kingdom 20 Nov. 2018
- *Texture description through histograms of equivalent patterns: A unifying Framework for LBP and related methods*. School of Computing Sciences, University of East Anglia, United Kingdom 9 Dec. 2015
- *Texture description through histograms of equivalent patterns: A unifying Framework for LBP and related methods*. School of Electronic Engineering and Computer Science; Queen Mary, University of London, United Kingdom 22 Sep. 2015
- *Introduction to computer vision*, School of Industrial Engineering, Universidade de Vigo, Spain 21 Jan. 2014
- *Fundamentals of pattern recognition and colour image analysis*, School of Industrial Engineering, Universidade de Vigo, Spain 27 Nov. 2012
- *Introduction to pattern recognition and computer vision with applications in the industry*, School of Industrial Engineering, Universidade de Vigo, Spain 24 Jan. 2012
- *Colour vision and pattern recognition*. School of Industrial Engineering, Universidad de Vigo, Spain 11 Jan. 2011
- *Automatic characterization of materials appearance through texture and colour analysis*. School of Computing Sciences, University of East Anglia, United Kingdom 15 Oct. 2010
- *Data exchange among CAD/CAM/CAE systems: problems and perspectives*. Università degli Studi dell'Aquila, Italy 16 Dec. 2004

Tutorials

- *Colour texture analysis and classification* (with C. Cusano and P. Napoletano), 5th Computational Colour Imaging Workshop (CCIW'17), Milan, Italy 29 Mar. 2017

Supervision of PhD dissertations

- R. Bello-Cerezo *Colour texture classification at the end of the 'early' years: hand-designed descriptors or pre-trained convolutional neural networks?* Doctoral Programme in Industrial and Information Engineering, Università degli Studi di Perugia, Italy Apr. 2019

Supervision of BSc and MSc theses

- Thirty BSc and MSc theses within the Department of Engineering, Università degli Studi di Perugia, Italy
- Eight MSc theses within the School of Industrial Engineering, Universidade de Vigo, Spain

Research projects

As principal investigator

- *Caratteristiche di forma, colore e tessitura per l'analisi di immagini piane e volumetriche: metodi ed applicazioni* (*Shape, colour and texture features for the analysis of two- and three-dimensional images: methods and applications*). Fundamental research grants, Department of Engineering, Università degli Studi di Perugia, Italy. Amount granted: € 2.751,32. 2020-2021

As investigator/participant

- *Artificial intelligence for Earth observation*. Fundamental research grants, Department of Engineering, Università degli Studi di Perugia, Italy. Amount granted: € 3000,00. 2021-2022
- *Algoritmi classici e di Machine Learning per lo sviluppo di modelli sperimentali "data driven" per applicazioni robotiche e per la classificazione di prodotti industriali* (*Traditional and Machine Learning algorithms for developing data-driven robotics applications and for automatic classification of industrial products*). Fundamental research grants, Department of Engineering, Università degli Studi di Perugia, Italy. Amount granted: € 5600,00. 2019-2020
- *Identificación basada en objetos de cultivos hortícolas bajo invernadero a partir de stereo imágenes del satélite WorldView-3 y series temporales de Landsat-8 – Ref. AGL2014-56017-R* (*Object-based identification of greenhouse horticultural crops through satellite stereo imagery from WorldView-3 and time series from Landsat-8*). Ministry of Economy and Competitiveness, Spain; Universidad de Almería, Spain. Amount granted: € 85.000,00. 2015-2018
- *BioMeTron: Un nuovo approccio integrato e multidisciplinare per lo studio, la gestione e la progettazioni di impianti biologici per l'energia e l'ambiente* (*A new multi-disciplinary, integrated approach for studying, designing and managing biological plants for energy and the environment*). Fundamental research grants, Department of Engineering, Università degli Studi di Perugia, Italy. Amount granted: € 14.000,00. 2015-2017
- *LIFE12 ENV/IT/000411 Enhanced material recovery and environmental sustainability for small scale waste management systems*. European Commission. 2013-2018
- *GEOEYE1-WV2: Generación de datos georeferenciados de muy alta resolución a partir de imágenes de los satélites GeoEye-1 Y WorldView-2 – ref. CTM2010-16573* (*Generation of high resolution*

geo-referenced data from GeoEye-1 and WorldView-2 satellite images). Ministry of Science and Education, Spain; Universidad de Almería, Spain. 2011-2013

- *EFESO: Environmental Friendly Energy from Solid Oxide Fuel Cells*. Ministry of Economic Development, Italy. Total amount granted: € 10.922.360,00 2009-2011
- *Modeling, simulation and experimental evaluation of materials for Industrial and Civil Engineering*. Consortium for the development of the University District, Terni, Italy. Amount granted: € 73.000,00 2007-2008
- *Sistemi innovativi per la gestione e la condivisione delle informazioni di prodotto in ambienti CAx (Innovative systems for sharing and managing product data in CAx environments)*. Ministry of Education, University and Research; PRIN programme 2005, Italy. Amount granted: € 73.000,00 2007-2008

Other grants and fellowships for teaching, research and consultancy

- *FFABR: Finanziamento delle Attività Base di Ricerca* (*Funding for Basic Activities Related to Research*). National Agency for the Evaluation of Universities and Research Institutes, Italy. Amount: € 3000,00. 2017
- *Introduction to Engineering Drawing: Theory and applications*. Faist Componenti S.p.A., Montone (PG), Italy. Grant type: teaching and consultancy. Amount: € 3000,00. 2018
- *Introduction to Engineering Drawing: Theory and applications*. Faist Componenti S.p.A., Montone (PG), Italy. Grant type: teaching and consultancy. Amount: € 1500,00. 2017
- *Introduction to Engineering Drawing: Theory and applications*. Faist Componenti S.p.A., Montone (PG), Italy. Grant type: teaching and consultancy. Amount: € 1000,00. 2016
- *Introduction to Computer Vision*. Universidade de Vigo, Spain. Grant type: teaching. Amount: € 500,00. 2014
- *Fundamentals of pattern recognition and colour image analysis*. Universidade de Vigo, Spain. Grant type: teaching. Amount: € 500,00. 2013
- *Fundamentals of pattern recognition and colour image analysis*. Universidade de Vigo, Spain. Grant type: teaching. Amount: € 1200,00. 2012
- *Colour vision and pattern recognition*. Universidade de Vigo, Spain. Grant type: teaching. Amount: € 1200,00. 2011
- *Digital image processing and pattern recognition*. Universidade de Vigo, Spain. Grant type: teaching. Amount: € 1800,00. 2009
- *Introduction to Engineering drawing, materials and manufacturing processes*. Black & Decker Italia S.p.A., Corciano (PG), Italy. Grant type: teaching and consultancy. Amount: € 6000,00. 2008-2009
- *Characterization of the visual appearance of ornamental stone through combination of classifiers*. Universidade de Vigo, Spain. Grant type: visiting fellowship. Amount: € 1200,00. 2006

- *Characterization of the visual appearance of natural stones (marble and granite) through image processing and artificial intelligence*. National Research Council, Italy. Grant type: Short-term mobility fellowship. Amount: € 1.787,87. 2005

- *Design and optimisation of shelters*. O.M.C. Srl, Passignano (PG), Italy. Grant type: consultancy. Amount: € 5.760,00. 2005

Editorial work

- Academic Editor for *PLOS One* (e-ISSN: 1932-6203) Jun. 2020-present

- Academic Editor for *Applied Sciences* (e-ISSN: 2076-3417) Nov. 2020-present

- Managing Guest Editor of the Virtual Special Issue 'Visual dEscriptors for TexturE Recognition: from Gabor to deep leArNing (VETERAN)', *Pattern Recognition Letters* (ISSN: 0167-8655) closing Sep. 2022

- Guest Editor of the Special Issue 'Automated Product Inspection for Smart Manufacturing', *Applied Sciences* (e-ISSN: 2076-3417) closing Mar. 2021

- Guest Editor of the Special Issue 'Artificial intelligence in Image-Based Diagnostics of Oncological and Neurological Disorders', *Diagnostics* (ISSN 2075-4418) closing Dec. 2021

- Guest Editor of the Special Issue 'Texture and Colour in Image Analysis', *Applied Sciences* (e-ISSN: 2076-3417) closed Apr. 2020

- Reviewer for:
  Applications in Engineering Science (2 manuscript revised); *Applied Mathematics and Computation* (2); *Algorithms* (3), *Applied Sciences* (11), *Archaeometry* (1), *Automation in Construction* (3); *Autosoft Journal* (2), *BMC Medical Imaging* (1), *Biosystems Engineering* (1), *Cancer Imaging* (3), *Cancer Investigation* (1), *Cancer Medicine* (1), *Cancer Management and Research* (1), *Computers and Electronics in Agriculture* (1), *Computers in Industry* (2), *Computer Methods and Programs in Biomedicine* (3), *Concurrency and Computation: Practice and Experience* (1), *Diagnostics* (1), *Digital Signal Processing* (4), *Dyna-Colombia* (1), *Ecological Informatics* (1), *Electronics* (1), *Energy and Buildings* (1), *Entropy* (2), *Engineering Computations* (1), *Expert Systems With Applications* (9), *European Radiology* (1), *Fibers and Polymers* (1), *Food Science and Applied Biotechnology* (1), *Frontiers Oncology* (1), *Future Generation Computer Systems* (1), *EURASIP Journal on Image and Video Processing* (1), *IEEE Journal of Biomedical and Health Informatics* (1), *IEEE Signal Processing Letters* (2), *IEEE Transactions on Circuits and Systems for Video Technology* (1), *IEEE Transactions on Emerging Topics in Computational Intelligence* (1), *IEEE Transactions on Image Processing* (19), *IEEE Transactions on Medical Imaging* (1), *IEEE Transactions on Multimedia* (2), *IEEE Transactions on Signal Processing* (1), *IET Image Processing* (2), *IET Signal Processing* (2), *IET Computer Vision* (2), *Information* (1), *Información Tecnológica* (1), *Integrated Computer-aided Engineering* (1), *Intelligent Automation and Soft Computing* (1), *International Journal of Computer Applications in Technology* (1), *International Journal of Continuing Engineering Education and Life-Long Learning* (1), *International Journal of Cosmetic Science* (1), *International Journal of Multimedia Information Retrieval* (1), *International Journal of Neural Systems* (2), *Journal of Applied Remote Sensing* (1), *Journal of Cancer Research and Clinical Oncology* (1), *Journal of Computational Methods in Sciences and*

Engineering (1), *Journal of Electronic Imaging* (9), *Journal of King Saud University* (1), *Journal of Imaging* (2), *Journal of Imaging Science and Technology* (1), *Journal of Medical Imaging* (1), *Journal of Medical Imaging and Health Informatics* (9), *Journal of the Optical Society of America – A* (1), *Journal of Visualization* (3), *Journal on Computing and Cultural Heritage* (1), *Knowledge-Based Systems* (3), *Machine Vision and Applications* (1), *Measurement* (2), *Medical Image Analysis* (2), *Microscopy Research & Technique* (1), *Molecular Imaging and Biology* (2), *Multidimensional Systems and Signal Processing* (7), *Nanomaterials* (1), *Neurocomputing* (1), *Optical Engineering* (4), *Optics and Lasers in Engineering* (7), *Optik - International Journal for Light and Electron Optics* (1), *Opto-Electronics Review* (1), *Pattern Analysis and Applications* (1), *Pattern Recognition* (9), *Pattern Recognition Letters* (9), *Photogrammetric Engineering and Remote Sensing* (2), *PlosONE* (3), *Radiation Oncology* (1), *Remote Sensing* (2), *Respiratory Research* (1), *Scientific Reports* (3), *Signal Processing* (1), *SN Applied Sciences* (2), *Surfaces & Coatings Technology* (1), *Sensors* (9), *Solar Energy Materials & Solar Cells* (1), *Superficies y Vacío* (1), *Symmetry* (4), *Textile Research Journal* (1), *Theranostics* (1), *Turkish Journal of Agriculture and Forestry* (1).

Organisation of scientific events

Organising committees

- The 6th International Conference on Control, Automation and Diagnosis (ICCAD'22); Lisbon, Portugal. Role: co-publication chair Jul. 2022
- The 5th International Conference on Control, Automation and Diagnosis (ICCAD'20); Paris, France. Role: co-publication chair Oct. 2020
- *Texture Analysis, Classification and Retrieval (TAILOR)*. Workshop within the 25th International Conference on Pattern Recognition (ICPR); Milan, Italy. Role: workshop organiser Jan. 2021
- *Processing visual data in intelligent systems: methods and applications*. Special track within the 10th KES International Conference on Intelligent Interactive Multimedia: Systems and Services; Vilamoura, Portugal. Role: session organizer and chair Jun. 2017

Scientific and programme committees

- International Symposium on Mathematical and Computational Oncology, Virtual (ISMCO'21)
- International Conference on Computer Graphics and Digital Image Processing (CGDIP 2020, CGDIP 2021)
- International Conference on Frontiers of Digital Signal Processing (CFDSP 2021)
- The 4th International Conference on Control, Automation and Diagnosis (ICCAD'20)
- First International Symposium on Information and Future Technologies (ISIFut 2020)
- 15th European Congress on Digital Pathology (ECDP 2019)
- 4th International Workshop on Interactive and Spatial Computing (IWISC 2019)
- KES International Conference on Intelligent Decision Technologies (IDT 2019)

- International Conference on Advances in Signal Processing and Artificial Intelligence (ASPAI 2019)
- International Conference on Big Data and Machine Learning (BDML 2018)
- International Conference Florence Heri-Tech (The future of Heritage Science and technologies, 2018, 2020 and 2022)
- International Conference on Advances in Image Processing (ICAIP 2018–2019)
- Computational Color Imaging Workshop (CCIW'17)
- KES International Conference on Intelligent Interactive Multimedia: Systems and Services (IIMSS-17, IIMSS-18)
- International Conference on Communication and Information Processing (ICCIP 2016–2020)
- 1st IEEE Italy Section Summer School – Advanced course for graduated students and industrial research (IEEESS 2015)
- Knowledge-Based and Intelligent Information & Engineering Systems (KES 2015–2017)
- Workshop Colour in Texture and Material Recognition (in conjunction with the 18th Int. Conf. on Image Analysis and Processing – ICIAP 2015)
- Portuguese Conference on Artificial Intelligence (EPIA 2015)
- International Conference on Systems (ICONS 2015–2022)
- International Conference on Modelling, Simulation, and Identification (MSI 2014, MSI 2016)
- World Conference on Information Systems and Technologies (WorldCIST'13–21)
- International Conference on Computer Graphics and Imaging (CGIM 2013)
- Irish Machine Vision and Image Processing Conference (IMVIP 2011, IMVIP 2014–2021)
- Imaging and Signal Processing in Healthcare and Technology (ISPHT 2011)
- Computational Photography (CPhoto 2011)
- Visualization Imaging and Image Processing (VIIP 2007–2009 and VIIP 2012)
- International Conference on Information Visualization (IV07–10, IV2011, IV2012, IV2013, IV2015 and IV2016)
- Applied Simulation and Modelling (ASM 2008, ASM 2009 and ASM 2012)
- International Joint Congress XVI ADM – XIX INGEGRAF (2007)

Advisory and evaluation

- External evaluator for PhD Thesis, Department of Informatics, Systems and Communications, Università degli Studi di Milano-Bicocca Milan, Italy, Nov. 2021
- External evaluator for PhD Thesis, Faculty of Information Technology and Electrical Engineering, Norges Teknisk-Naturvitenskapelige Universitet (NTNU), Gjøvik, Norway Nov. 2021
- External evaluator for the Italian Ministry for University and Research, National Research Projects (PRIN) call 2020 May-Sep. 2021
- External evaluator for PhD Thesis, School of Electronic Engineering and Computer Science, Queen Mary University of London, United Kingdom May 2020
- External evaluator for PhD Thesis, Anna University, Chennai, India Feb. 2020
- External referee for academic promotions at London South Bank University, United Kingdom Feb. 2020
- External evaluator for PhD Thesis, University of Florence, Italy Dec. 2019
- Head of the evaluation panel for Fondimpresa Lifelong Learning projects ('Technology and/or digital innovation' call 4/2018), Rome, Italy Mar.–Sep. 2019
- External evaluator for the Young Reseachers Programme 'Rita Levi Montalcini', Italian Ministry of Education 2016
- Member of the final evaluation committee for the degree of Doctor of Philosophy, International Doctoral Programme, University of Vigo, Spain Jul. 2019
- Member of the final evaluation committee for the degree of Doctor of Philosophy, Department of Engineering, University of Almería, Spain Jul. 2013
- Member of the final evaluation committee for the degree of Doctor of Philosophy, Department of Mining and Environmental Engineering, University of Vigo, Spain Jul. 2011
- Member of the final evaluation committee for the degree of Doctor of Philosophy, Faculty of Sciences, University of Vigo, Spain Mar. 2010

Prizes and awards

- First Prize: S. Cascianelli, C. Tranfaglia, M.L. Fravolini, F. Bianconi, M. Minestrini, S. Nuvoli, N. Tambasco, M.E. Dottorini and B. Palumbo; *Right putamen and age are the most discriminant features to diagnose Parkinson's disease by using 123I-FP-CIT brain SPECT data by using an artificial neural network classifier, a classification tree (CIT)*, 4th International Medical Olympiad; Thessaloniki, Greece Nov. 2017
- Best paper award: R. Bello-Cerezo, F. Bianconi, S. Cascianelli, F. Di Maria, M. Fravolini and F. Smeraldi; *Hand-designed local image descriptors vs. off -the-shelf CNN-based features for texture classification: an experimental comparison*, 9th International Conference on Intelligent Interactive Multimedia: Systems and Services; Vilamoura, Portugal Jun. 2017

- Best paper award: M.J. Álvarez, A. Fernández, E. González, F. Bianconi, F.J. Aguilar and J. Armesto; *Image segmentation using multilayer Coordinated Cluster Representation*, International Joint Congress XXI INGEGRAF - XVII ADM; Lugo, Spain Jun. 2009

Patents and inventions

- IT patent no. 1413266: *Apparatus to acquire a plurality of superficial images of at least one body and related method*. Assignee: Mondial Marmi S.r.l.; inventors: F. Bianconi, S.A. Saetta, A. Fernández and E. González 2015.

Publications

Selected (sorted by date, newest first)

F. Bianconi and E. Brugnoli. Enumerating necklaces with transitions. *Bulletin of the Australian Mathematical Society*, 2021. In press

F. Bianconi, I. Palumbo, M.L. Fravolini, R. Chiari, M. Minestrini, L. Brunese, and B. Palumbo. Texture analysis on [18F]FDG PET/CT in non-small-cell lung cancer: Correlations between PET features, CT features, and histological types. *Molecular Imaging and Biology*, 21(6):1200–1209, December 2019

Edited books

[1] F. Bianconi, A. Fernández, and R.E. Sánchez-Yáñez, editors. *Texture and color in image analysis*. MDPI, 2021. Printed edition of the Special Issue Texture and Colour in Image Analysis, published in Applied Sciences

Book chapters

[1] F. Bianconi and A. Fernández. A unifying framework for LBP and related methods. In S. Brahnam, L. C. Jain, L. Nanni, and A. Lumini, editors, *Local binary patterns: New variants and applications*, volume 506 of *Studies in Computational Intelligence*, pages 17–46. Springer, 2014

[2] J.N. Kather, R. Bello-Cerezo, F. Di Maria, G.W. van Pelt, W.E. Mesker, N. Halama, and F. Bianconi. Classification of tissue regions in histopathological images: Comparison between pre-trained convolutional neural networks and local binary patterns variants. In L. Nanni, S. Brahnam, R. Brattin, S. Ghidoni, and L.C. Jain, editors, *Deep learners and deep learner descriptors for medical applications*, volume 186 of *Intelligent Systems Reference Library*, chapter 3, pages 95–115. Springer, 2020

Journal papers

[1] F. Bianconi, A. Fernández, F. Smeraldi, and G. Pascoletti. Colour and texture descriptors for visual recognition: A historical overview. *Journal of Imaging*, 7(11), November 2021. Art. no. 245

[2] E. Chirikhina, A. Chirikhin, S. Dewsbury-Ennis, F. Bianconi, and P. Xiao. Skin characterizations by using contact capacitive imaging and high-resolution ultrasound imaging with machine learning algorithms. *Applied Sciences*, 11(18), September 2021. Art. no. 8714

[3] B. Palumbo, F. Bianconi, and I. Palumbo. Solitary pulmonary nodule: Is positron emission tomography/computed tomography radiomics a valid diagnostic approach? *Lung India*, 38(5):405–407, September 2021. Editorial

[4] F. Bianconi, M.L. Fravolini, I. Palumbo, G. Pascoletti, S. Nuvoli, M. Rondini, A. Spanu, and B. Palumbo. Impact of lesion delineation and intensity quantisation on the stability of texture features from lung nodules on CT: A reproducible study. *Diagnostics*, 11(7), July 2021. Art. no. 1224

[5] F. Bianconi, M.L. Fravolini, S. Pizzoli, I. Palumbo, M. Minestrini, M. Rondini, S. Nuvoli, A. Spanu, and B. Palumbo. Comparative evaluation of conventional and deep learning methods for semi-automated segmentation of pulmonary nodules on ct. *Quantitative Imaging in Medicine and Surgery*, 11(7):3286 – 3305, July 2021

[6] F. Bianconi, A. Fernández, and R.E. Sánchez-Yáñez. Special issue texture and color in image analysis. *Applied Sciences*, 11(9), April 2021. Art. no. 3801. Editorial

[7] B. Palumbo, F. Bianconi, S. Nuvoli, A. Spanu, and M.L. Fravolini. Artificial intelligence techniques support nuclear medicine modalities to improve the diagnosis of Parkinson's disease and Parkinsonian syndromes. *Clinical and Translational Imaging*, 9(1):19–35, February 2021

[8] F. Bianconi and E. Brugnoli. Enumerating necklaces with transitions. *Bulletin of the Australian Mathematical Society*, 2021. In press

[9] F. Bianconi, J.N. Kather, and C.C. Reyes-Aldasoro. Experimental assessment of color deconvolution and color normalization for automated classification of histology images stained with hematoxylin and eosin. *Cancers*, 12(11), November 2020. Art. no. 3337

[10] B. Palumbo, F. Bianconi, I. Palumbo, M.L. Fravolini, M. Minestrini, S. Nuvoli, M.L. Stazza, M. Rondini, and A. Spanu. Value of shape and texture features from 18F-FDG PET/CT to discriminate between benign and malignant solitary pulmonary nodules: An experimental evaluation. *Diagnostics*, 10, September 2020. Art no. 696

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