Francesco BIANCONI
Curriculum vitae

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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.

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

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[1]Stands for *Credito Formativo Universitario*, that 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.

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] 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), sep 2021. Art. no. 8714

[2] 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, sep-oct 2021. Editorial

[3] 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), jul 2021. Art. no. 1224

[4] 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, jul 2021

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

[6] 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, feb 2021

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

[8] 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), nov 2020. Art. no. 3337

[9] 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, sep 2020. Art no. 696

[10] E. Chirikhina, A. Chirikhin, P. Xiao, S. Dewsbury-Ennis, and F. Bianconi. In vivo assessment of water content, trans-epidermialwater loss and thickness in human facial skin. *Applied Sciences*, 10(17), sep 2020. Art. no. 6139

[11] C. Buratti, E. Belloni, F. Merli, and F. Bianconi. Experimental characterization of the color rendering properties of transparent monolithic aerogel. *Solar Energy*, 205:183–191, jul 2020

[12] B. Palumbo, R. Capozzi, F. Bianconi, M.L. Fravolini, S. Cascianelli, S.G. Messina, G. Bellezza, A. Sidoni, F. Puma, and M. Ragusa. Classification model to estimate MIB-1 (Ki 67) proliferation index in NSCLC patients evaluated with 18F-FDG-PET/CT. *Anticancer Research*, 40(6):3355–3360, jun 2020

[13] S. Nuvoli, A. Spanu, M.L. Fravolini, F. Bianconi, S. Cascianelli, G. Madeddu, and B. Palumbo. [123I]metaiodobenzylguanidine (MIBG) cardiac scintigraphy and automated classification techniques in Parkinsonian disorders. *Molecular Imaging and Biology*, 22(3):703–710, jun 2020

[14] F. Bianconi, I. Palumbo, A. Spanu, S. Nuvoli, M.L. Fravolini, and B. Palumbo. PET/CT radiomics in lung cancer: An overview. *Applied Sciences*, 5(10), mar 2020. Art. no. 1718

[15] F. Smeraldi, F. Bianconi, A. Fernández, and E. González. Partial order rank features in colour space. *Applied Sciences*, 10(2), jan 2020. Art. no. 499

Conference proceedings

[1] F. Bianconi. Experimental analysis of colour constancy and colour augmentation for painting classification by artistic genre: preliminary results. In *Proceedings of the 2nd International Conference Florence Heri-Tech: The Future of Heritage Science and Technologies, HERITECH 2020*, volume 949 of *IOP Conference Series: Materials Science and Engineering*, Florence, Italy, oct 2020. Art. no. 012065

[2] F. Bianconi, M.L. Fravolini, I. Palumbo, and B. Palumbo. Shape and texture analysis of radiomic data for computer-assisted diagnosis and prognostication: an overview. In C. Rizzi,

A.O. Andrisano, F. Leali, F. Gherardini, F. Pini, and A. Vergnano, editors, *Proceedings of the International Conference on Design Tools and Methods in Industrial Engineering (ADM)*, Lecture Notes in Mechanical Engineering, pages 3–14, Modena, Italy, sep 2019. Springer