Maria A. Zuluaga
ASSISTANT PROFESSOR IN MACHINE LEARNING

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Education & Diplomas

2021	HABILITATION A DIRIGER DES RECHERCHES – Université Côte d'Azur, FR
2011	PHD IN SIGNAL AND IMAGE PROCESSING – Université Claude Bernard Lyon I, FR
2005	MSC IN COMPUTER SCIENCE – Universidad de los Andes, CO
2002	BSC IN ELECTRONICS ENGINEERING – Universidad del Valle, CO

Experience

2019 - present	ASSISTANT PROFESSOR IN MACHINE LEARNING, Data Science Dept., EURECOM, FR
2021 - present	VISITING SENIOR LECTURER, School of Biomedical Eng. & Imaging Sciences King's College London, UK
2017 – 2019	HEAD OF EXPLORATORY RESEARCH, Artificial Intelligence Dept., Amadeus, FR
2017	DATA SCIENTIST, Artificial Intelligence Dept., Amadeus, FR
2015 – 2016	SENIOR RESEARCH ASSOCIATE, University College London, UK
2014 – 2020	HONORARY LECTURER, Universidad Nacional de Colombia, CO
Fall 2013	VISITING SCIENTIST, Faculty of Engineering & Applied Sciences, Yale University, US
2012 – 2015	RESEARCH ASSOCIATE, University College London, UK
2011 – 2012	POSTDOCTORAL FELLOW, European Synchrotron Radiation Facility & CREATIS, FR
2007 – 2010	DOCTORAL RESEARCHER, CREATIS, Université Claude Bernard Lyon I, FR
Spring 2007	VISITING SCIENTIST, BiomedIA Lab, CSIRO, AU
2005 – 2007	RESEARCH ASSISTANT, Universidad de los Andes, CO
2004-2005	JUNIOR SOFTWARE DEVELOPER – Heinsohn Software House, CO

Teaching & Tutoring

Current

2019 - present	MACHINE LEARNING AND INTELLIGENT SYSTEMS (~100 students) 42h. EURECOM, FR

Past

2018 – 2019	AI ACADEMY: MACHINE LEARNING TRAINING PROGRAM 16h. Amadeus, FR
2014 – 2016	STATISTICAL SHAPE MODELS (MODULE) 7h. University College London, UK
2005 – 2007	OBJECT ORIENTED PROGRAMMING 45h. Universidad de los Andes, CO
2004 – 2005	SOFTWARE ARCHITECTURES 45h. Fundación Universitaria San Martín, CO
2010	QUALITY OF SOFTWARE (as teaching assistant) 45h. Universidad de los Andes, CO
2009 - 2010	IMAGE PROCESSING (as teaching assistant) 45h. Universidad de los Andes, CO

Student Supervision

Summary: Primary supervisor for 5 PhD students, 4 MSc Students and a research fellow. Primary academic supervisor of 14 Master Student internships. Co-supervision of 4 PhD students and 4 MSc students. G. Wang received the PhD Prize in Medical Physics and Biomedical Engineering Dept of University College London

PhD Students	<u>EURECOM:</u> H. Chaptoukaev (2022 – present); F. Galati (2021 - present); J. Audibert (2019 – 2021); L. Pascal (2019 – 2021); <u>Amadeus:</u> R. Candela (2018 – 2019) *as industrial*

	supervisor; <u>University College London:</u> S. Moriconi (2015 – 2019) *with MJ Cardoso*; G. Wang (2014 – 2017) *with S. Ourselin, T. Vercauteren*; A. Medelson (2013-2017) *with S. Ourselin, B. Hutton*
Research Fellows	Matteo Guarrera (2022) CEUR Fellow
MSc Students	<u>EURECOM:</u> B. D'Alpaos (2022); E. Makarova (2022); F.Galati (2020); V. Dang (2020); <u>University College London:</u> B. Biffi (2014) *with S. Schievano*; <u>U. Lyon</u>: R. Corredor (2011), F. Gutierrez (2011), E. Delgado (2009) *with M. Hernández, M. Orkisz*
MSc Internship (21)	S. Pappichio (Toyota, 2022-II); A. Ghiglione (2022-II)l S. Li (Median Technologies, 2022-I); F. Faiz (360 Learning, 2022-I); S. Goush (Cintoo, 2022-I); E. Berta (Aqemia, 2021-II); V. Ifrim (Accenture, 2021-II); P. Michel (Lexico, 2021-I); T. Diaconu (Sopra Bank, 2021-I); M. Guarrera (U. of California at Berkley, 2021-I); A. Rachid (2021-I); W. Robinson (U. of St Louis, 2021-I); M. Guyard (Cardiologs, 2020-II); P. Riccio (Oslo Metropolitan University, 2020-II); A. Senacheribbe (INRIA, 2020-II); MA Quero (Quantum Surgical, 2020-II); C. Bernard (OSCARO, 2020-I); G. Centoze (Mandorca, 2020-I); P. Mathur (École Norm. Sup., 2020-I); M. Desvignes (IBM, 2019-II); C. Lopez (Institut Pasteur, 2019-II)

Honours & Awards

2022	GOLD LEVEL DISTINGUISHED REVIEWER AWARD. *IEEE Transactions in Medical Imaging*
2022	OUTSTANDING REVIEWER. *Medical Imaging and Deep Learning Conference (MIDL)*
2021	JUNIOR CHAIR. *Interdisciplinary Institute for Artificial Intelligence (3IA) Côte d'Azur*
2021	OUTSTANDING REVIEWER. *International Conference on Computer Vision (ICCV)*
2021	SILVER LEVEL DISTINGUISHED REVIEWER AWARD. *IEEE Transactions in Medical Imaging*
2019	WOMEN IN TECHNOLOGY SUD: RESEARCHER CATEGORY FINALIST. *Women Hackers Action Tank (WHAT06)*
2014	INVITED PAPER. *International Journal of Computer Assisted Radiology and Surgery*
2012	1ST PRIZE AUTOMATIC ENDOCARDIUM SEGMENTATION. *MICCAI Right Ventricle Segmentation Challenge*
2011	STUDENT TRAVEL AWARD. *International Conference on Medical Image Computing and Computer-Assisted Interventions (MICCAI)*
2008	ADMISSION AWARD. *8th IEEE EMBS Int. Summer School on Biomedical Engineering*
2007 – 2011	PHD SCHOLARSHIP. *Dept. de Ciencia, Tecnología e Innovación – Colciencias (Colombia)*
2007	BEST POSTER AWARD. *Australia ICT Centre Conference*
2003 – 2005	EXCELLENCE SCHOLARSHIP FOR MASTER STUDENTS. *Universidad de los Andes (Colombia)*
2002	SUMMA CUM LAUDE. *Universidad del Valle (Colombia)*

Funding & Grants

2022 - present	ANR JCJC. *Interactive and Collaborative Learning for Vessel Segmentation* (233K €)
2022	CIFRE PHD – MATRIX/BODY O. *Artificial Intelligence Tools for Preventive E-medicine in Hypertension* (3y PhD funding)
2021 – present	JUNIOR CHAIR – INTERDISCIPLINARY INSTITUTE FOR ARTIFICIAL INTELLIGENCE (3IA) CÔTE D'AZUR. *Learning-based Models in Medical Imaging: Closing the Gap towards Clinical Translation (2 PhD students funding)*
2020	INDUSTRIAL CONTRACT – MONACO GOVERNMENT. *Quality Control in Clinical Pipelines* (37K €)
2020 – 2021	CIFRE PHD – ORKIS. *Optimization Strategies* for *Multi-Task Learning* (3y PhD funding)

2019 – 2021	**INDUSTRIAL PhD CONTRACT – ORANGE**. *Anomaly Detection in Multivariate Time Series* (3y PhD funding)
2016	**UCL SANTANDER RESEARCH CATALYST GRANT**. *University College London & Santander Bank* (5K GBP)
2014	**UCL GRADUATE SCHOOL CONFERENCE FUND.** *University College London* (2K GPB)

Invited Talks

2022	**INVITED SPEAKER.** *Grenoble Institut des NeuroSciences* Talk: UNVEILIGNG THE BRAIN VESSEL ARCHITECTURE (in French)
2022	**KEYNOTE SPEAKER.** *World Heart Day 2022, Nice, FR* Talk: L'INTELLIGENCE ARTIFICIELLE ET LE DIAGNOSTIC D'IMAGES CARDIAQUES: PROBLEMES RESOLUS ?
2022	**KEYNOTE SPEAKER** *Trustworthy AI for Medical Imaging Tutorial., Singapore, SG* Talk: TECHNICAL ROBUSTNESS AND BIAS IN MEDICAL IMAGING
2022	**KEYNOTE SPEAKER.** *Le Monde des Mathématiques Industrielles, Sophia Antipolis, FR* Talk: THE DATA CHALLENGES OF AI FOR MEDICAL IMAGING
2021	**INVITED SPEAKER.** *Engineering Week, Universidad del Valle, CO (Virtual Event)* Talk: EXPERTS-IN-THE-LOOP FOR IMPROVED ROBUSTNESS OF HEALTHCARE SYSTEMS
2021	**INVITED SPEAKER.** *SophIA Summit, Sophia Antipolis, FR* Talk: OPTIMIZATION STRATEGIES FOR MULTI-TASK LEARNING ALGORITHMS
2021	**PANELIST**. *Maison de l'IA, Sophia Antipolis, FR (Virtual Event)* Topic : L'IA ET LA FEMME: HISTOIRES DE SUCCES (in French)
2021	**INVITED SPEAKER**. *3rd Conference on artificial intelligence for medical images and clinical applications, CO (Virtual Event)* Talk: APPLICATIONS OF AI IN CARDIOVASCULAR IMAGING
2019	**INVITED SPEAKER**. *SophIA Summit, Sophia Antipolis, FR* Talk: EXPERT IN THE LOOP: HUMAN-MACHINE INTERACTION TO BUILD SAFE AI-BASED SYSTEMS IN HEALTHCARE
2019	**INVITED SPEAKER**. *9es Rencontres Francophones Multidisciplinaires des Cardiopathies Congénitales (RFMCC), Bordeaux, FR* Talk : HOW TO IDENTIFY A FOETUS AT RISK THANKS TO MACHINE LEARNING? (in French)
2018	**INVITED LECTURER**. *Master in Data Science, EURECOM, FR* Talk: THE CHALLENGES OF MACHINE LEARNING IN INDUSTRY
2018	**INVITED SPEAKER.** *Meilleur Développeur de France. Grande Arche de la Défense, FR* Talk : THE LIFE OF A DATA SCIENTIST
2017	**INVITED LECTURER**. *Master in Data Science, EURECOM, FR* Talk: MACHINE LEARNING IN INDUSTRY
2016	**INVITED SPEAKER.** *Seminar, Universidad Nacional de Colombia, CO* Talk: CARDIOVASCULAR IMAGE ANALYSIS USING KNOWLEDGE PRIORS
2015	**INVITED SPEAKER.** *Seminar, Great Ormond Street Hospital, London, UK* Talk: MULTI-MODAL IMAGE ANALYSIS FOR IMPROVED DIAGNOSIS
2013	**INVITED SPEAKER.** *Seminar, Institute of Nuclear Medicine, London, UK* Talk: METHODS AND TOOLS FOR IMAGE DATA ANALYSIS
2012	**INVITED SPEAKER.** *Seminar,Technische Universität München, Munich, DE* Talk: IMAGE PROCESSING IN MEDICAL IMAGING

Scientific Duties & Service

Editorial Duties

2022 - present	**EDITORIAL BOARD MEMBER.** *Medical Image Analysis*
2022 - present	**ASSOCIATE EDITOR.** *Computer Methods and Programs in Biomedicine*
2021 – present	**ASSOCIATE EDITOR.** *IEEE Transactions on Biomedical Engineering*
2021	**GUEST EDITOR**. *Medical Image Analysis. Special Edition on MICCAI 2020*
2016	**BOOK co-EDITOR.** *Computing and Visualization for Intravascular Imaging and Computer Assisted Stenting. Elsevier.*

Conference & Workshops Organization

2024	**WORKSHOPS CHAIR.** *International Conference on Medical Image Computing and Computer-Assisted Interventions (MICCAI). Marrakesh, MO*
2023	**CHALLENGES co-CHAIR.** *IEEE Int. Symposium on Biomedical Imaging. Cartagena, CO*
2022 – present	**PROGRAM COMMITTEE.** *SPIE Medical Imaging – Image Processing Conference*
2021	**YOUNG SCIENTIST AWARD SELECTION COMMITTEE.** *International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI), Virtual Event*
2021 - 22	**AREA CHAIR.** *International Conference on Medical Image Computing and Computer-Assisted Interventions (MICCAI), Virtual Event*
2021	**STUDENT LIAISON.** *IEEE Int. Symposium on Biomedical Imaging. Virtual Event*
2020	**PROGRAM CO-CHAIR.** *International Conference on Medical Image Computing and Computer-Assisted Interventions (MICCAI), Virtual Event*
2020 – present	**MENTOR**. *International Conference on Medical Image Computing and Computer-Assisted Interventions (MICCAI), Virtual Event*
2019	**GENERAL CO-CHAIR**. *Special session: Imaging in Developing Countries, IEEE ISBI 2019, Venice, IT*
2016	**GENERAL CO-CHAIR**. *MICCAI Workshop on Reconstruction and Analysis of Moving Body Organs. Athens, GR*
2013	**PUBLICATIONS CHAIR**. *7th Int. Conference on the Functional Modelling and Imaging of the Heart. London, UK*
2014 – 2016	**GENERAL CO-CHAIR.** *MICCAI CVII-STENT Workshop, Multiple Venues*

Funding Bodies

2022	**REVIEWER.** European Research Council – Advanced Grants
2022	**PANELIST.** Imec, BE
2021	**PANELIST.** Innoviris Brussels, BE
2021	**REVIEWER**. Fondo para la Investigación Científica y Tecnológica (FONCYT), AR
2017	**REVIEWER.** Agence nationale de la recherche (ANR), FR
2016, 2021	**REVIEWER.** Netherlands Organization for the Scientific Research (NWO), NL
2016	**REVIEWER.** French National Alliance for Life and Health Sciences (AVIESAN), FR

Boards and Memberships

2021 – present	**FUTURE-AI.** European network for building trustworthy and ethical AI in medical imaging
2013 – present	**MICCAI SOCIETY.**

Committees

PhD Referee	Z. Wang (INSA Lyon, 2022); B. Roussel (U. Lorraine, 2022); P. Fontaine (U. de Rennes,

or Committee (15)	2022); L. Peñarrubia (U. de Lyon, 2022); C. Brossard (U. Grenoble Alpes, 2022); J. Ferreti (Politecnico di Torino, 2022); U. Lecerf (EURECOM, 2022); J. Wacker (EURECOM, 2022); S. Rossi (EURECOM, 2022); M. Tardy (U. de Rennes, 2021); A. Sanchez (U. de Barcelona, 2021); G. Francese (Politecnico di Torino, 2021); S. Merino Caviedes (U. de Valladolid, 2020); R. Domingues (EURECOM, 2019); M. Alberti (U. de Barcelona, 2013)
Transfer Viva or Reviewing Committee	Transfer viva committee of PhD students at Universidad Nacional de Colombia (2) and University College London (1). PhD review committee of PhD students at EURECOM (8), at Université Côte d'Azur (1), Université de Lyon (2), and Université de Sorbonne (1)

Reviewing Activities

Journals (*selection*)	IEEE Trans. on Medical Imaging, Medical Image Analysis, IEEE Trans. On Pattern Analysis and Machine Intelligence, Int. Journal of Computer Assisted Radiology and Surgery, Nature Machine Intelligence, Artificial Intelligence Reviews, Artificial Intelligence in Medicine, Neural Networks, Neurocomputing
Conferences (*selection*)	AAAI, CVPR, FIMH, ECCV, ICCV, ICLR, IJCAI, IPMI, ISBI, MICCAI, NEURIPS, MIDL

Media Coverage & Dissemination

2021	**INVITED BLOG**. L'IA en 2020-2021: pandémie, succès, défis et perspectives. Institut EuropIA [link]
2019	**PORTRAIT BIO**. Quelques Femmes du Numérique [link]

Open Sourced Software

robust-ml	Public repository with code developed within my research group. *Role:* Principal investigator
cardiac-tools	Online web-service. Method for multi-modal whole heart segmentation. *Role*: Main contributor
Streaming in ITK	Tutorial on how to make use of the streaming facilities of ITK for big data manipulation. Work in collaboration with Kitware. *Role:* Contributor
DLD Algos	Suite of density level based methods for anomaly detection. *Role*: Main contributor

Publications & Patents: Summary

Publications in the field of machine learning (e.g. IEEE PAMI, AAAI, SigKDD, IEEE Big Data) and biomedical imaging & engineering (e.g. MedIA, IEEE TMI, IJCARS, MICCAI, IPMI, ISBI) with > 2500 citations; h-index: 21 (source: Google Scholar).

- **31** International journal articles
- **51** Peer-reviewed conference papers
- **6** Books and proceedings edition

- **13** Abstracts & conferences w/o proceedings
- **2** preprints
- **2** patents & industrial disclosures

Patents and Industrial Publications

Patents

MA. Zuluaga, D. Renaudie, R. Acuna-Agost. System and method for evaluating and deploying unsupervised or semi-supervised machine learning models. US Patent 11,367,022 (2022)

Research disclosure (defensive publication)

R. Candela, **MA. Zuluaga**, P. Michiardi, M. Filippone. Predicting error metrics of Time-series Forecasting. Research disclosure publication database number 664052. Online: July 16 2019 (2019)

List of Publications

Full list of publications available at https://bit.ly/2ViHS95

Journal Publications

1. J. Audibert, P. Michiardi, F. Guyard, S. Marti, **MA. Zuluaga.** Do Deep Neural Networks Contribute to Multivariate Time Series Anomaly Detection? Pattern Recognition 132, 108945 (2022)

2. L. Pascal, OJ. Perdomo, X. Bost, B. Huet, S. Otálora, **MA. Zuluaga**. Multi-task deep learning for glaucoma detection from color fundus images. Scientific Reports 12, 12361 (2022)

3. F. Galati, S. Ourselin, **MA. Zuluaga**. From accuracy to reliability and robustness in cardiac magnetic resonance image segmentation: a review. Applied Sciences, Special Issue Emerging Techniques in Imaging, Modelling and Visualization for Cardiovascular Diagnosis and Therapy, 12(8), 3936 (2022)

4. VN. Dang, F. Galati, R. Cortese, G. Di Giacomo, V. Marconetto, P. Mathur, K. Lekadir, M. Lorenzi, F. Prados-Carrasco, **MA. Zuluaga**. Vessel-Captcha: An Efficient Learning Framework for Vessel Annotation and Segmentation. Medical Image Analysis, 75, 102263 (2022)

5. M Da, MJ Cardoso, **MA. Zuluaga**, M Modat, NM. Powell, FK. Wiseman, JO. Cleary, B. Sinclair, IF. Harrison, B. Siow, MV Sarunic, MF Beg, VL. Tybulewicz, EM. Fisher, MF. Lythgoe, Sebastien Ourselin, Tc1 mouse cerebellar cortical morphometric analysis. Neuroimage 117271 (2020)

6. C. Alvarez-Jimenez, N. Múnera-Garzón, **MA. Zuluaga**, NF. Velasco, E. Romero. Autism spectrum disorder characterization in children by capturing local-regional brain changes in MRI. Medical physics 47(1) 119-131 (2020)

7. R. Aughwane, C. Schaaf, JC. Hutchinson, A. Virasami, **MA. Zuluaga**, N. Sebire, OJ. Arthurs, T. Vercauteren, S. Ourselin, A. Melbourne, AL. David. Micro-CT and histological investigation of the spatial pattern of feto-placental vascular density. Placenta 88, 36-43 (2019)

8. G. Wang, **MA. Zuluaga**, W. Li, R. Pratt, PA. Patel, M. Aertsen, T. Doel, AL. David, J. Deprest, S. Ourselin, T. Vercauteren. DeepIGeoS: A deep interactive geodesic framework for medical image segmentation. IEEE Transactions on Pattern Analysis and Machine Intelligence 41(7) 1559-1572 (2019)

9. S. Moriconi, **MA. Zuluaga**, HR. Jäger, P. Nachev, S. Ourselin, MJ. Cardoso. Inference of Cerebrovascular Topology with Geodesic Minimum Spanning Trees. IEEE Transactions on Medical Imaging 28(1), 225-239 (2018)

10. G. Wang, W. Li, **MA. Zuluaga**, R. Pratt, PA. Patel, M. Aertsen, T. Doel, AL. David, J. Deprest, S. Ourselin, T. Vercauteren. Interactive medical image segmentation using deep learning with image-specific fine-tuning. IEEE Transactions on Medical Imaging 37(7), 1562-1563 (2018)

11. R. Pratt, JC. Hutchinson, A. Melbourne, **MA. Zuluaga**, A. Virasami, T. Vercauteren, S. Ourselin, NJ. Sebire, OJ. Arthurs, AL. David. Imaging the human placental microcirculation with micro-focus computed tomography: Optimisation of tissue preparation and image acquisition. Placenta 60, 36-39 (2017)

12. SE. Williams, C. Tobon-Gomez, **MA. Zuluaga**, H. Chubb, C. Butakoff, R. Karim, E. Ahmed, O. Camara, KS. Rhode. Standardized unfold mapping: a technique to permit left atrial regional data display and analysis. Journal of Interventional Cardiac Electrophysiology 50(1), 125-131. (2017)

13. JL. Bruse, **MA. Zuluaga**, A. Khushnood, K. McLeod, HN. Ntsinjana, T-Y. Hsia, M. Sermesant, X. Pennec, AM. Taylor, S. Schievano. Detecting Clinically Meaningful Shape Clusters in Medical Image Data: Metrics Analysis for Hierarchical Clustering applied to Healthy and Pathological Aortic Arches. IEEE Transactions on Biomedical Engineering 64(7), 2373-2383 (2017)

14. B. Biffi, JL. Bruse, **MA. Zuluaga**, HN. Ntsinjana, AM. Taylor, S. Schievano. Investigating Cardiac Motion Patterns Using Synthetic High-Resolution 3D Cardiovascular Magnetic Resonance Images and Statistical Shape Analysis. Frontiers in Pediatrics (5) 34 p. 10.3389/fped.2017.00034 (2017)

15. AF. Mendelson, **MA. Zuluaga**, M. Lorenzi, BF. Hutton, S. Ourselin. Selection bias in the reported performances of AD classification pipelines. Neuroimage: Clinical 14, 400-416 (2017)

16. R. Sparks, G. Zombori, R. Rodionov, M. Nowell, SB. Vos, **MA. Zuluaga**, B. Diehl, T. Wehner, A. Miserocchi, AW. McEvoy, JS. Duncan, S. Ourselin. Automated multiple trajectory planning algorithm for the placement of stereo-electroencephalography (SEEG) electrodes in epilepsy treatment. IJCARS 12, 123-136 (2017)

17. G. Wang, **MA. Zuluaga**, R. Pratt, M. Aertsen, T. Doel, M. Klusmann, AL. David, J. Deprest, T. Vercauteren, S. Ourselin. Slic-Seg: A Minimally Interactive Segmentation of the Placenta from Sparse and Motion-Corrupted Fetal MRI in Multiple Views. Medical Image Analysis 34. Special edition on MICCAI 2015. 137-147 (2016)

18. A. Atehortúa, **MA. Zuluaga**, JD. García, E. Romero. Automatic segmentation of right ventricle in cardiac cine MR images using a saliency analysis. Medical Physics 43 6270–6281 (2016)

19. **MA. Zuluaga***, N. Burgos*, AF. Mendelson, AM. Taylor, S. Ourselin. Voxelwise Atlas Rating for Computer Assisted

Diagnosis: Application to Congenital Heart Diseases Affecting the Great Arteries. Medical Image Analysis 26(1) 185-194 (2015) *Joint first authorship

20. **MA. Zuluaga**, R. Rodionov, M. Nowell, S. Achhala, G. Zombori, A.F. Mendelson, M.J. Cardoso, A. Miserocchi, A.W. McEvoy, J.S. Duncan, S. Ourselin. Stability, Structure and Scale: improvements in Multi-modal Vessel Extraction for SEEG Trajectory Planning. . International Journal Of Computer Assisted Radiology And Surgery 10(8), 1227-1237 (2015)

21. C. Tobón-Gómez, AJ. Geers, J. Peters, J. Weese, K. Pinto, R. Karim, M. Ammar, A. Daoudi, J. Margeta, Z. Sandoval, B. Stender, Y. Zheng, **MA. Zuluaga**, K.S. Rhode et al. Benchmark for Algorithms Segmenting the Left Atrium from 3D CT and MRI Datasets. IEEE Transactions on Medical Imaging 34 (7), 1460-1473 (2015)

22. C. Petitjean, **MA. Zuluaga**, J-N. Dacher, D. Grosgeorge. J. Caudron, et al. Right Ventricle Segmentation From Cardiac MRI: A Collation Study, Medical Image Analysis 19(1), 187-202 (2015)

23. E. Manning, KE. Macdonald, KK. Leung, J. Young, T. Pepple, M. Lehmann, **MA. Zuluaga**, MJ. Cardoso, JM. Schott, S. Ourselin, S. Crutch, NC. Fox. J. Barnes. Differential hippocampal shapes in posterior cortical atrophy patients: A comparison with control and typical AD subjects. Human Brain Mapping 36(12), 5123-5136 (2015)

24. **MA. Zuluaga**, M. Orkisz, P. Dong, A Pacureanu, PJ Gouttenoire and F. Peyrin. Bone canalicular network segmentation in 3D nano-CT images through geodesic voting and image tessellation, Physics in Medicine and Biology, vol. 59, 2155-2171 (2014)

25. **MA. Zuluaga**, MH Hoyos, M. Orkisz. Feature selection based on empirical-risk function to detect lesions in vascular computed tomography. IRBM 35 (5), 244-254 (2014)

26. P. Dong, A. Pacureanu, **MA. Zuluaga**, C Olivier, Q Grimal, F Peyrin. Quantification of the 3D Morphology of the Bone Cell Network from Synchrotron micro-CT Images. Image Analysis and Stereology 33(2), 157-166 (2014)

27. K. Hameeteman, **MA. Zuluaga**, M. Freiman, L. Joskowicz, W.J. Niessen, T. van Walsum et al. Evaluation Framework for Carotid Bifurcation Lumen Segmentation and Stenosis Grading, Medical Image Analysis 15(4), 477-488 (2011)

28. **MA. Zuluaga**, IE Magnin, M. Hernández Hoyos, EJF. Delgado, F. Lozano and M. Orkisz. Automatic detection of abnormal vascular cross-sections based on Density Level Detection and Support Vector Machines. International Journal Of Computer Assisted Radiology And Surgery 6(2) 163-174 (2011)

29. **MA. Zuluaga**, L. Ibañez, and F. Peyrin. Large Image Streaming using ITKv4. The Insight Journal January-June, p. 7. (2011)

30. **MA. Zuluaga**, A. Larrue, A. Rattner, L. Vico and F. Peyrin. Acquisition of Synchrotron Radiation micro-CT images for the investigation of bone micro-cracks. The MIDAS Journal – Medical Image Computing (2011)

31. O. Acosta, P. Bourgeat, **MA. Zuluaga**, J. Fripp, O. Salvado, S. Ourselin and the Alzheimer's Disease Neuroimaging Initiative. Automated voxel-based 3D cortical thickness measurement in a combined Lagrangian-Euclerian PDE approach using partial volume maps. Medical Image Analysis 13(5) 730-743 (2009)

Articles in Peer-reviewed Conference Proceedings

1. W.J. Robinson, F. Esposito, MA. Zuluaga. DTS: A Simulator to Estimate the Training Time of Distributed Deep Neural Networks. MASCOTS 2022, 30th International Symposium on the Modeling, Analysis, and Simulation of Computer and Telecommunication Systems, (2022) *in press*

2. M. Guarrera, B. Jin, T-W Lin, MA. Zuluaga, Y. Chen, A. Sangiovanni-Vincentelli. Class-wise thresholding for robust out-of-distribution detection. *2022 IEEE/CVF Conference on Computer Vision and Pattern Recognition Workshops (CVPRW)*, pp. 2836-2845 (2022)

3. MR. Kamble, J. Patino, MA. Zuluaga, M. Todisco. Exploring auditory acoustic features for the diagnosis of the Covid-19. ICASSP 2022, IEEE International Conference on Acoustics, Speech and Signal Processing (*in press*)

4. P. Riccio, F. Galati, MA. Zuluaga, JC. De Martin, S., Nichele. Translating Emotions from EEG to Visual Arts. In: Artificial Intelligence in Music, Sound, Art and Design. EvoMUSART 2022. LNCS 13221 (2022)

5. LM. Ferrari, G. Abi-Hanna, P. Volpe, E. Ismailova, F. Bremond, **MA. Zuluaga**. One-class autoencoder approach for optimal electrode set-up identification in wearable EEG event monitoring. In: 43rd Annual International Conference of the IEEE Engineering in Medicine and Biology EMBC 2021, pp. 7128-7131 (2021)

6. J. Audibert, S. Marti, F. Guyard, **MA. Zuluaga**. From univariate to multivariate time series anomaly detection with non-local information. In: ECML/PKDD 2021 6th Workshop on Advanced Analytics and Learning on Temporal Data 2021, pp. 186-194 (2021)

7. MR. Kamble, JA. Gonzalez-Lopez, T. Grau, JM. Espin, L. Cascioli, Y. Huang, A. Gomez-Alanis, J. Patiño, R. Font, AM. Peinado, M. Gomez, Angel, N. Evans, MA. Zuluaga, M. Todisco. PANACEA cough sound-based diagnosis of COVID-19 for the DiCOVA 2021 Challenge. In: Proc. Interspeech 2021, pp. 906-910 (2021)

8. F. Galati & MA. Zuluaga. Using out-of-distribution detection for model refinement in cardiac image segmentation. In: International Workshop on Statistical Atlases and Computational Models of the Heart (pp. 374-382 (2021)

9. F. Galati & **MA. Zuluaga**. Efficient Model Monitoring for Quality Control in Cardiac Image Segmentation. In: Functional Imaging and Modeling of the Heart (FIMH). LNCS 12738 (2021)

10. L. Pascal, P. Michiardi, X. Bost, B. Huet, **MA. Zuluaga**. Maximum Roaming Multi-Task Learning. In: Proceedings of the AAAI Conference on Artificial Intelligence, 35(10), 9331-9341 (2021)

11. R. Candela, P. Michiardi, M. Filippone, **MA. Zuluaga**. Model Monitoring and Dynamic Model Selection in Travel Time-series Forecasting. In: European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases ECML-PKDD 2020: Machine Learning and Knowledge Discovery in Databases, LNCS 12460 pp. 513-529 (2020)

12. J. Audibert, P. Michiardi, F. Guyard, S. Marti, **MA. Zuluaga**, USAD: Unsupervised Anomaly Detection on multivariate time series. In: KDD '20: Proceedings of the 26th ACM SIGKDD International Conference on Knowledge Discovery & Data Mining, pp. 3395–3404 (2020)

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