



Curriculum Vitae

RICARDO FILIPE ALVES MARTINS

My name is Ricardo Martins and I am a PhD in Electrical and Computer Engineering, specialized in automation and robotics, with a background in Biomedical Engineering (MSc). Over the past years, my research activities at University of Coimbra (UC), Institute of Systems and Robotics (ISR), Coimbra Institute for Biomedical Imaging and Translational Research (CIBIT) and Institute of Nuclear Sciences Applied to Health (ICNAS), have been focused on two distinct lines of research and innovation - artificial perception in robotics; neuroimaging in cognitive neuroscience - with a common intersection: statistics and probability; multivariate signal processing; computational modelling.

Identification

Personal identification

Full name

RICARDO FILIPE ALVES MARTINS

Email addresses

ricardo.martins@uc.pt (Professional)

Websites

<https://rmartins.net/> (Professional)

<https://github.com/rmartins-net> (Professional)

Education

	Degree	Classification
2019/10/07 - 2019/10/09 Concluded	KCL PET Methodology Course (Outros) King's College London, United Kingdom Institute of Psychiatry Psychology and Neuroscience Department of Basic and Clinical Neuroscience, United Kingdom	Advanced training certification
2019/07/11 - 2019/07/18 Concluded	IST Lisbon Machine Learning School (Outros) Universidade de Lisboa Instituto Superior Técnico, Portugal Instituto de Engenharia de Sistemas e Computadores Investigação e Desenvolvimento em Lisboa, Portugal	Advanced training certification

2018/09/10 - 2018/09/14 Concluded	ETHZ/UZH Computational Psychiatry Course 2018 (Outros)	Advanced training certification
	Departement Informationstechnologie und Elektrotechnik, Switzerland Universität Zürich Institut für Informatik, Switzerland	
2009/10/01 - 2017/02/27 Concluded	Engenharia Eletrotécnica e de Computadores (Doutoramento) Major in Automation and Robotics	Approved with praise and distinction
	Universidade de Coimbra, Portugal <i>"Development of techniques for haptic object exploration: a contribution for autonomous robotic hands" (THESIS/DISSERTATION)</i>	
2016/06/06 - 2016/06/08 Concluded	FieldTrip: a MATLAB toolbox for MEG - EEG analysis (Outros)	Advanced training certification
	Radboud Universiteit Donders Institute for Brain Cognition and Behaviour, Netherlands	
2016/01/01 - 2016/03/31 Concluded	Biostatistics and design of clinical trials (Outros)	Advanced training certification
	Universidade de Coimbra, Portugal	
2010/10/01 - 2011/07/31 Concluded	Advanced studies in Electrical and Computer Engineering (Outros)	Excellent (18 out of 20)
	Universidade de Coimbra, Portugal	
2010/09/27 - 2010/10/01 Concluded	Summer School on Robotic Grasping (Outros)	Advanced training certification
	Universitat Jaume I Escola Superior de Tecnologia i Ciències Experimentals, Spain	
2002/10/01 - 2008/09/18 Concluded	Engenharia Biomédica (Mestrado integrado) Major in Instrumentação Biomédica	Very good with distinction (18 out of 20)
	Universidade de Coimbra, Portugal <i>"BW-Eye: Ophthalmologic decision support system based on clinical workflow and data mining techniques" (THESIS/DISSERTATION)</i>	

Affiliation

Science

2019/10/01 - Current	Postdoc (Research) CIBIT-UC: Coimbra Institute for Biomedical Imaging and Translational Research, University of Coimbra, Portugal
2017/05/01 - Current	Postdoc (Research) Universidade de Coimbra Instituto de Ciências Nucleares Aplicadas à Saúde, Portugal
2017/05/01 - 2019/09/30	Postdoc (Research) CNC.IBILI, Portugal
2014/01/01 - 2017/04/30	Researcher (Research) CNC.IBILI, Portugal
2014/01/01 - 2017/04/30	Researcher (Research) Universidade de Coimbra Instituto de Ciências Nucleares Aplicadas à Saúde, Portugal
2008/10/01 - 2017/02/28	Researcher (Research) Universidade de Coimbra Instituto de Sistemas e Robótica, Portugal

Projects

Grant

	Designation	Funders
2019/06/01 - Current	AIMS-2-TRIALS: Autism Innovative Medicine Studies – 2 – Trials 777394 Post-doc CIBIT-UC: Coimbra Institute for Biomedical Imaging and Translational Research, University of Coimbra, Portugal Universidade de Coimbra Instituto de Ciências Nucleares Aplicadas à Saúde, Portugal	EU Framework Programme for Research and Innovation Societal Challenges, Belgium
2021 - 2024	NeuroHyst: Neural mechanisms underlying positive and negative perceptual hysteresis PTDC/PSI-GER/1326/2020 Post-doc CIBIT-UC: Coimbra Institute for Biomedical Imaging and Translational Research, University of Coimbra, Portugal	Fundação para a Ciência e a Tecnologia, Portugal
2018/07/26 - 2021/07/25	Brain Elasticity in Multiple Sclerosis and implications in mechanomodulation of oligodendrocytes: a cellular and clinical approach PTDC/MED-NEU/29516/2017 Post-doc	Fundação para a Ciência e a Tecnologia, Portugal

CNC.IBILI, Portugal
 Universidade de Coimbra Instituto de Ciências Nucleares
 Aplicadas à Saúde, Portugal

2018/07/26 - 2021/07/25	<p>AFFECTIVE: Affective disorders- biomarkers and early detection PTDC/MEC-PSQ/30943/2017</p> <p>Post-doc</p> <p>CNC.IBILI, Portugal Universidade de Coimbra Instituto de Ciências Nucleares Aplicadas à Saúde, Portugal</p>	Fundação para a Ciência e a Tecnologia, Portugal
2018/06/22 - 2021/06/21	<p>BioMuScl: Novel multimodal imaging biomarkers of neuronal connectivity in Multiple Sclerosis CENTRO-01-0145-FEDER-031973</p> <p>Post-doc</p> <p>Universidade de Coimbra Instituto de Ciências Nucleares Aplicadas à Saúde, Portugal</p>	Fundação para a Ciência e a Tecnologia, Portugal
2017/05/01 - 2020/01/31	<p>MEDPERSYST: Synaptic networks and Personalized Medicine Approaches to Understand Neurobehavioural Diseases Across the Lifespan SAICTPAC/0010/2015</p> <p>Post-doc Fellow</p> <p>Universidade de Coimbra Instituto de Ciências Nucleares Aplicadas à Saúde, Portugal CNC.IBILI, Portugal</p>	Fundação para a Ciência e a Tecnologia, Portugal
2017/11/01 - 2019/10/31	<p>The role of motion adaptation in bottom-up mechanisms of perceptual decision-making PT/FB/BL-2016-207</p> <p>Post-doc</p> <p>Universidade de Coimbra Instituto de Ciências Nucleares Aplicadas à Saúde, Portugal</p>	Bial, Portugal
2016/02/01 - 2017/10/31	<p>Multimodal mapping of visual motion perceptual decision: Dissecting the role of different motion integration areas in visual surface reconstruction PT/FB/BL-2014-373</p> <p>Post-doc</p> <p>Universidade de Coimbra Instituto de Ciências Nucleares Aplicadas à Saúde, Portugal CNC.IBILI, Portugal Universidade de Coimbra, Portugal</p>	Bial, Portugal
2015/07/01 - 2017/04/30	<p>Trabalho multidisciplinar no âmbito da ressonância funcional e tomografia de emissão de positrões UID/NEU/04539/2013</p> <p>Researcher</p> <p>Universidade de Coimbra Instituto de Ciências Nucleares Aplicadas à Saúde, Portugal</p>	Fundação para a Ciência e a Tecnologia, Portugal

2014/01/01 - 2015/06/30	<p>From molecules to man: novel diagnostic imaging tools in neurological and psychiatric disorders CENTRO-07-ST24-FEDER-02005</p> <p>Researcher Universidade de Coimbra Instituto de Ciências Nucleares Aplicadas à Saúde, Portugal</p>	Fundação para a Ciência e a Tecnologia, Portugal
2010/01/01 - 2013/12/31	<p>Development of techniques for haptic object exploration: a contribution for autonomous robotic hands SFRH/BD/65990/2009</p> <p>PhD Student Fellow Universidade de Coimbra Instituto de Sistemas e Robótica, Portugal</p>	<p>Fundação para a Ciência e a Tecnologia, Portugal</p> <p>Universidade de Coimbra, Portugal</p>
2008/08/01 - 2013/01/31	<p>HANDLE - Developmental pathway towards autonomy and dexterity in robot in-hand manipulation 231640</p> <p>Researcher Universidade de Coimbra, Portugal Universidade de Coimbra Instituto de Sistemas e Robótica, Portugal</p>	European Commission Seventh Framework Programme for Research and Technological Development Information and Communication Technologies, Belgium
2008/10/01 - 2009/07/31	<p>PROMETHEUS - Prediction and interpretation of human behaviour based on probabilistic structures and heterogeneous sensors 214901</p> <p>Researcher Universidade de Coimbra, Portugal Universidade de Coimbra Instituto de Sistemas e Robótica, Portugal</p>	European Commission Seventh Framework Programme for Research and Technological Development Information and Communication Technologies, Belgium
2008/01/01 - 2008/06/30	<p>EPILEPSIAE - Evolving Platform for Improving the Living Expectations of Patients Suffering from IctAI Events 211713</p> <p>Master Student Fellow Universidade de Coimbra Centro de Informatica e Sistemas, Portugal Universidade de Coimbra, Portugal</p>	European Commission Seventh Framework Programme for Research and Technological Development Information and Communication Technologies, Belgium

Outputs

Publications

- | | | |
|--------------|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Book chapter | 1 | Faria, Diego R.; Martins, Ricardo; Lobo, Jorge; Dias, Jorge. "Manipulative Tasks Identification by Learning and Generalizing Hand Motions". In <i>IFIP Advances in Information and Communication Technology</i> , 173-180. Springer Berlin Heidelberg, 2011.
Published · 10.1007/978-3-642-19170-1_19 |
| | 2 | Faria, Diego R.; Martins, Ricardo; Dias, Jorge. "Grasp Exploration for 3D Object Shape Representation Using Probabilistic Map". In <i>IFIP Advances in Information and Communication Technology</i> , 215-222. Springer Berlin Heidelberg, 2010.
Published · 10.1007/978-3-642-11628-5_23 |
| | 3 | Dourado, António; Martins, Ricardo; Duarte, João; Direito, Bruno. "Towards Personalized Neural Networks for Epileptic Seizure Prediction". In <i>Artificial Neural Networks - ICANN 2008</i> , 479-487. Springer Berlin Heidelberg, 2008.
Published · 10.1007/978-3-540-87559-8_50 |
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|------------------|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Conference paper | 1 | Martins, Ricardo; Filipe Ferreira, Joao; Dias, Jorge. "Touch attention Bayesian models for robotic active haptic exploration of heterogeneous surfaces". Paper presented in <i>IROS 2014 - 2014 IEEE/RSJ International Conference on Intelligent Robots and Systems, Taipei</i> , 2014.
Published · 10.1109/iros.2014.6942711 |
| | 2 | Martins, Ricardo; Ferreira, João Filipe; Dias, Jorge. "Touch attention Bayesian models for robotic active haptic exploration". Paper presented in <i>REACTS 2013 - Workshop on Recognition and Action for Scene Understanding - International Conference of Computer Analysis of Images and Patterns, York</i> , 2013.
Published |
| | 3 | Martins, Ricardo; Faria, Diego R.; Dias, Jorge. "Representation framework of perceived object softness characteristics for active robotic hand exploration". Paper presented in <i>HRI 2012 - ACM/IEEE International Conference on Human-Robot Interaction, Boston</i> , 2012.
Published · 10.5281/zenodo.4553427 |
| | 4 | Faria, Diego R; Martins, Ricardo; Lobo, Jorge; Dias, Jorge. "Probabilistic representation of 3D object shape by in-hand exploration". Paper presented in <i>IROS 2010 - 2010 IEEE/RSJ International Conference on Intelligent Robots and Systems, Taipei</i> , 2010.
Published · 10.1109/iros.2010.5649286 |
| | 5 | Martins, Ricardo; Faria, Diego R.; Dias, Jorge. "Symbolic Level Generalization of In-hand Manipulation Tasks from Human Demonstrations using Tactile Data Information". Paper presented in <i>IROS 2010 - 2010 IEEE/RSJ International Conference on Intelligent Robots and Systems</i> , 2010.
Published · 10.5281/zenodo.4553413 |
| | 6 | Faria, Diego R.; Martins, Ricardo; Dias, Jorge. "Learning Motion Patterns from Multiple Observations along the Actions Phases of Manipulative Tasks". Paper presented in <i>IROS 2010 - 2010 IEEE/RSJ International Conference on Intelligent Robots and Systems, Taipei</i> , 2010.
Published · 10.5281/zenodo.4553421 |

- 7 Faria, Diego R.; Martins, Ricardo; Dias, Jorge. "Human reach-to-grasp generalization strategies: a Bayesian approach". Paper presented in *RSS 2009 - Robotics: Science and Systems, Seattle*, 2009.

Published · 10.5281/zenodo.4553390

Conference
poster

- 1 Costa, Gabriel N.; Schaum, Michael; MARTINS, RICARDO; Duarte, João V.; Castelhana, João; Wibrál, Michael; Castelo-Branco, Miguel. "Distinct roles of beta and gamma oscillations during integration of ambiguous motion". Paper presented in *FRM 2019 - Federation of European Neuroscience Societies Regional meeting*, 2019.
- 2 Campos, Alexandre S.; Sousa, Teresa; Duarte, João V.; Costa, Gabriel N.; Martins, Ricardo; Castelo-Branco, Miguel; Sayal, Alexandre. "Unraveling the neural correlates of perceptual hysteresis: the effects of perceptual history on the visual perception of an ambiguous stimulus". Paper presented in *FENS 2018 - 11th FENS Forum of Neuroscience*, 2018.
10.1016/j.neuroimage.2018.06.075
- 3 Sousa, Teresa; Campos, Alexandre S.; Duarte, João V.; Costa, Gabriel N.; Martins, Ricardo; Castelo-Branco, Miguel. "Evidence for asymmetric perceptual adaptation to coherent and incoherent moving plaids". Paper presented in *OHBM 2018 - 24th Annual Meeting of the Organization for Human Brain Mapping*, 2018.
- 4 Sousa, Teresa; Kemper, Valentin; Costa, Gabriel N.; Duarte, João V.; Martins, Ricardo; Goebel, Rainer; Castelo-Branco, Miguel. "The Perceptual Integration of Visual Motion Revealed by hMT+ Interhemispheric Connectivity: a 7 Tesla study". Paper presented in *13th International Conference for Cognitive Neuroscience, Amsterdam*, 2017.
- 5 Costa, Gabriel N.; Duarte, João V.; Martins, Ricardo; Castelo-Branco, Miguel. "Beta oscillations reflect perceptual experience under ambiguous stimulation but not in the absence of conflict". Paper presented in *13th International Conference for Cognitive Neuroscience*, 2017.
- 6 Duarte, João V.; Costa, Gabriel N.; Martins, Ricardo; Castelo-Branco, Miguel. "Long-range interhemispheric binding of bistable surface motion reflects bottom-up processes generated within hMT+". Paper presented in *13th International Conference for Cognitive Neuroscience*, 2017.
- 7 MARTINS, RICARDO; Duarte, João V.; Costa, Gabriel N.; Martins, Ricardo; Castelo-Branco, Miguel. "Maintenance of perceptual stability of interhemispheric surface motion is associated with bottom-up influences generated within hMT+". Paper presented in *7th Iberian Congress on Perception*, 2017.
- 8 Sousa, Teresa; Duarte, João V.; Costa, Gabriel N.; Kemper, Valentin; Martins, Ricardo; Goebel, Rainer; Castelo-Branco, Miguel. "High-resolution 7T fMRI data on the perceptual long-range segregation vs. integration of bistable moving stimuli". Paper presented in *7th Iberian Congress on Perception*, 2017.

- 9 Campos, Alexandre S.; Sousa, Teresa; Duarte, João V.; Costa, Gabriel N.; Martins, Ricardo; Castelo-Branco, Miguel. "Study of motion adaptation and its role in deciding between competing surface representations". Paper presented in *7th Iberian Congress on Perception*, 2017.
- 10 Costa, Gabriel N.; Duarte, João V.; Martins, Ricardo; Wibrál, Michael; Castelo-Branco, Miguel. "Beta oscillations during motion integration and segmentation: evidence of binding or perceptual bias?". Paper presented in *7th Iberian Congress on Perception*, 2017.
- 11 Costa, Gabriel N.; Duarte, João V.; Martins, Ricardo; Wibrál, Michael; Castelo-Branco, Miguel. "Binding of ambiguous visual stimuli is associated with changes in beta power but not with synchrony". Paper presented in *OHBM 2016 - 22nd Annual Meeting of the Organization for Human Brain Mapping*, 2016.
- 12 Sousa, Teresa; Kemper, Valentin; Costa, Gabriel N.; Duarte, João V.; Martins, Ricardo; Goebel, Rainer; Castelo-Branco, Miguel. "Long-range perceptual integration of visual motion revealed at high resolution 7T fMRI". Paper presented in *OHBM 2016 - 22nd Annual Meeting of the Organization for Human Brain Mapping*, 2016.
- 13 Sousa, Teresa; Costa, Gabriel N.; Duarte, João V.; Martins, Ricardo; Kemper, Valentin; Goebel, Rainer; Castelo-Branco, Miguel. "Perceptual interpretation of visual motion revealed at high resolution 7T fMRI: differential modulation of neural population activity". Paper presented in *VIBILI Meeting - Coimbra Institute for Clinical and Biomedical Research*, 2015.
- 14 Costa, Gabriel N.; Duarte, João V.; Martins, Ricardo; Madeira, Nuno; Castelo-Branco, Miguel. "Increased synchrony correlates with visual binding: a study on visual integration on healthy subjects and schizophrenic patients". Paper presented in *Annual Conference on Clinical Neurophysiology and Neuroimaging*, 2015.
- 15 Costa, Gabriel N.; Duarte, João V.; Intaite, Monika; Martins, Ricardo; Castelo-Branco, Miguel. "Perceptual motion integration correlates with long range neural synchrony: a study on the temporal binding hypothesis". Paper presented in *IV IBILI meeting - Coimbra Institute for Clinical and Biomedical Research*., 2014.
- 16 Martins, Ricardo; Ferreira, João Filipe; Dias, Jorge. "Touch attention Bayesian models for object feature extraction in robotic blind manipulation". Paper presented in *MaxEnt2012 - International Workshop on Bayesian Inference and Maximum Entropy Methods in Science and Engineering*, 2012.
- 17 Martins, Ricardo; Dias, Jorge; Faria, Diego R.. "Representation framework of perceived object softness characteristics for active robotic hand exploration". Paper presented in *HANDLE 2012 - workshop on Developmental pathway towards autonomy and dexterity in robot in-hand manipulation*, 2012.

Journal article

- 1 Sousa, Teresa; Duarte, João V.; Costa, Gabriel N.; Kemper, Valentin G.; Martins, Ricardo; Goebel, Rainer; Castelo-Branco, Miguel. "The dual nature of the BOLD signal: Responses in visual area hMT + reflect both input properties and perceptual decision". *Human Brain Mapping* (2021): <http://dx.doi.org/10.1002/hbm.25339>.
Published • Open access • 10.1002/hbm.25339
- 2 Jorge, Lília; Martins, Ricardo; Canário, Nádia; Xavier, Carolina; Abrunhosa, Antero; Santana, Isabel; Castelo-Branco, Miguel. "Investigating the Spatial Associations Between Amyloid- β Deposition, Grey Matter Volume, and Neuroinflammation in Alzheimer's Disease". *Journal of Alzheimer's Disease* (2021): 1-20. <http://dx.doi.org/10.3233/jad-200840>.
Published • Open access • 10.3233/jad-200840
- 3 Jorge, Lília; Canário, Nádia; Martins, Ricardo; Santiago, Beatriz; Santana, Isabel; Quental, Hugo; Ambrósio, Francisco; Bernardes, Rui; Castelo-Branco, Miguel. "The Retinal Inner Plexiform Synaptic Layer Mirrors Grey Matter Thickness of Primary Visual Cortex with Increased Amyloid β Load in Early Alzheimer's Disease". *Neural Plasticity* 2020 (2020): <https://doi.org/10.1155/2020/8826087>.
Published • Open access • 10.1155/2020/8826087
- 4 Sayal, Alexandre; Sousa, Teresa; Duarte, João V.; Costa, Gabriel N.; Martins, Ricardo; Castelo-Branco, Miguel. "Identification of competing neural mechanisms underlying positive and negative perceptual hysteresis in the human visual system". *NeuroImage* (2020): 117153. <http://dx.doi.org/10.1016/j.neuroimage.2020.117153>.
Published • Open access • 10.1016/j.neuroimage.2020.117153
- 5 Madeira, Nuno; Duarte, João; Valente, MARTINS, RICARDO; Costa, Gabriel Nascimento; Macedo, António; Castelo-Branco, Miguel. "Morphometry and gyrification in bipolar disorder and schizophrenia: A comparative MRI study". *NeuroImage: Clinical* 26 (2020): 102220. <http://dx.doi.org/10.1016/j.nicl.2020.102220>.
Accepted • Open access • 10.1016/j.nicl.2020.102220
- 6 Sousa, Teresa; Duarte, João V.; Costa, Gabriel N.; Kemper, Valentin G.; MARTINS, RICARDO; Goebel, Rainer; Castelo-Branco, Miguel. "Tracking perceptual decision mechanisms through changes in interhemispheric functional connectivity in human visual cortex". *Scientific Reports* 9 1 (2019): <http://dx.doi.org/10.1038/s41598-018-37822-x>.
Published • Open access • 10.1038/s41598-018-37822-x
- 7 Duarte, João; Madeira, Nuno; Martins, Ricardo; Costa, Gabriel; Macedo, António; Castelo-Branco, Miguel. "Investigating whole-brain MRI markers in neuropsychiatric disorders – separating disease duration from medication effects in schizophrenia and bipolar disorder". *Frontiers in Cellular Neuroscience* 13 (2019): <http://dx.doi.org/10.3389/conf.fncel.2019.01.00048>.
Published • Open access • 10.3389/conf.fncel.2019.01.00048
- 8 Sousa, Teresa; Sayal, Alexandre; Duarte, João; Costa, Gabriel; Martins, Ricardo; Castelo-Branco, Miguel. "Studying the neuronal mechanisms underlying bistable perception: the role of adaptation, persistence, and inhibition on perceptual decision". *Frontiers in Cellular Neuroscience* 13 (2019): <http://dx.doi.org/10.3389/conf.fncel.2019.01.00045>.
Published • Open access • 10.3389/conf.fncel.2019.01.00045
- 9 Costa, Gabriel Nascimento; Duarte, João Valente; Martins, Ricardo; Wibrál, Michael; Castelo-Branco, Miguel. "Interhemispheric Binding of Ambiguous Visual Motion Is Associated with Changes in Beta Oscillatory Activity but Not with Gamma Range Synchrony". *Journal of Cognitive Neuroscience* 29 11 (2017): 1829-1844. http://dx.doi.org/10.1162/jocn_a_01158.
Published • 10.1162/jocn_a_01158

- 10 Duarte, João Valente; Costa, Gabriel Nascimento; Martins, Ricardo; Castelo-Branco, Miguel. "Pivotal role of hMT+ in long-range disambiguation of interhemispheric bistable surface motion". *Human Brain Mapping* 38 10 (2017): 4882-4897. <http://dx.doi.org/10.1002/hbm.23701>.
Published · Open access · 10.1002/hbm.23701
- 11 Martins, Ricardo; Ferreira, João Filipe; Castelo-Branco, Miguel; Dias, Jorge. "Integration of touch attention mechanisms to improve the robotic haptic exploration of surfaces". *Neurocomputing* 222 (2017): 204-216. <http://dx.doi.org/10.1016/j.neucom.2016.10.027>.
Published · 10.1016/j.neucom.2016.10.027
- 12 Faria, Diego R.; Martins, Ricardo; Lobo, Jorge; Dias, Jorge. "Extracting data from human manipulation of objects towards improving autonomous robotic grasping". *Robotics and Autonomous Systems* 60 3 (2012): 396-410. <http://dx.doi.org/10.1016/j.robot.2011.07.020>.
Published · 10.1016/j.robot.2011.07.020
- 13 Faria, Diego R.; Martins, Ricardo; Lobo, Jorge; Dias, Jorge. "A Probabilistic Framework to Detect Suitable Grasping Regions on Objects". *IFAC Proceedings Volumes* 45 22 (2012): 247-252. <http://dx.doi.org/10.3182/20120905-3-hr-2030.00090>.
Published · Open access · 10.3182/20120905-3-hr-2030.00090
- 14 Direito, Bruno; Martins, Ricardo; Costa, Rui P.; Dourado, António; Sales, Francisco; Vieira, Marco. "Computational Intelligence Algorithms for Seizure Prediction - 8th European Congress on Epileptology". *Epilepsia* 50 (2009): 211-211. <http://dx.doi.org/10.1111/j.1528-1167.2009.02063.x>.
Published · Open access · 10.1111/j.1528-1167.2009.02063.x

Thesis / Dissertation

- 1 MARTINS, RICARDO. "Development of techniques for haptic exploration and recognition of objects - a contribution to autonomous robotic hands". PhD, Universidade de Coimbra, 2017. <http://hdl.handle.net/10316/31939>.
- 2 MARTINS, RICARDO. "BW-Eye: Ophthalmologic decision support system based on clinical workflow and data mining techniques-image registration algorithm". Master, Universidade de Coimbra, 2008. <https://estudogeral.uc.pt/handle/10316/9935>.
10.5281/zenodo.4553367

Other

Dataset

- 1 Open Code - HL7 Health Level 7 message parser. <https://github.com/rmartins-net/HL7-Health-Level-7-message-parser>.
- 2 Open code - DICOM data extraction and display. <https://github.com/rmartins-net/DICOM-data-extraction-and-display>.
- 3 Open code - determination of heart rate from ECG data. <https://github.com/rmartins-net/Determination-of-heart-rate-from-ECG-data>.
- 4 Open code - OCR optical character recognition using neural networks. <https://github.com/rmartins-net/OCR-optical-character-recognition-using-neural-networks>.

- 5 Open code - medical equipment-computer communication - MECIF protocol. <https://github.com/rmartins-net/Medical-equipment---Computer-communication---MECIF-protocol>.
- 6 Open code - personalized neural networks for epileptic seizure prediction. <http://github.com/rmartins-net/Towards-Personalized-Neural-Networks-for-Epileptic-Seizure-Prediction>.
- 7 Open code - importDatasetTB toolbox - HANDLE project. <https://github.com/rmartins-net/MATLAB-importDatasetTB-toolbox>.
- 8 Open code - human body and hand kinematic structure analysis in a 3D environment. <https://github.com/rmartins-net/Human-body-and-hand-kinematic-structure-analysis-in-a-3D-environment>.
10.5281/zenodo.4553445
- 9 Open code - reconstruction of octrees (volumetric grid) from 3D point-cloud. <https://github.com/rmartins-net/Reconstruction-of-octrees-from-3D-point-cloud>.
- 10 Open code - moving dots localizer - MT, MST, MT-proper - Psychophysics Toolbox. <https://github.com/rmartins-net/Localizer-MT-MST-MT-proper-Psychophysics-Toolbox>.
- 11 Open code - ambiguous and unambiguous plaid motion stimuli - Psychophysics Toolbox. <https://github.com/rmartins-net/Ambiguous-and-unambiguous-plaid-motion-stimuli-Psychophysics-Toolbox>.
- 12 Open code - instrumented Rubik cube touch data visualization tool - HANDLE project. <https://github.com/rmartins-net/Instrumented-Rubik-cube-touch-data-visualization-tool>.
- 13 Open code - Moving plaids with dots - Psychophysics Toolbox.. <https://github.com/rmartins-net/moving-plaid-with-dots>.

Activities

Oral presentation

	Presentation title	Event name Host (Event location)
2020/01/23	How do Scientists Study the Brain? - Magnetic Resonance Brain Imaging	Martim de Freitas' High-school Weekly Science Club: "Scientific Method: How do Scientists Study the Brain?" Martim de Freitas' High-school

2014/09/05	Touch attention Bayesian models for robotic active haptic exploration of heterogeneous surfaces	IROS 2014 - IEEE/RSJ International Conference on Intelligent Robots and Systems IEEE Robotics and Automation Society (Chicago, United States)
2013/08/30	Touch attention Bayesian models for robotic active haptic exploration	REACTS 2013 - Workshop on Recognition and Action for Scene Understanding - International Conference of Computer Analysis of Images and Patterns CAIP 2013 - International Conference of Computer Analysis of Images and Patterns (York, United Kingdom)
2012/09/06	A Probabilistic Framework to Detect Suitable Grasping Regions on Objects	SYROCO 2012 - IFAC Symposium on Robot Control International Federation of Automatic Control (Dubrovnik, Croatia)
2012/07/18	Touch attention Bayesian models for object feature extraction in robotic blind manipulation	MaxEnt2012 - International Workshop on Bayesian Inference and Maximum Entropy Methods in Science and Engineering Max Planck Institute for Plasma Physics (Munich, Germany)
2012/03/05	Representation framework of perceived object softness characteristics for active robotic hand exploration	HRI 2012 - ACM/IEEE International Conference on Human-Robot Interaction IEEE Robotics and Automation Society (Boston, United States)
2012/02/03	Representation framework of perceived object softness characteristics for active robotic hand exploration	HANDLE 2012 - workshop on Developmental pathway towards autonomy and dexterity in robot in-hand manipulation Universitat Jaume I (Benicasim, Spain)
2009/07/28	Human reach-to-grasp generalization strategies: a Bayesian approach	RSS 2009 - Robotics: Science and Systems - Workshop: Understanding the Human Hand for Advancing Robotic Manipulation Robotics: Science and Systems (Seattle, United States)

Event organisation

	Event name Type of event (Role)	Institution / Organization
2019/10/01 - 2020/05/31	Martim de Freitas' High-school Weekly Science Club: "Scientific Method: How do Scientists Study the Brain?" (2019/10/01 - 2020/05/31)	CIBIT-UC: Coimbra Institute for Biomedical Imaging and Translational Research, University of Coimbra, Portugal

Exhibition (Co-organisator)

Universidade de Coimbra Instituto de
Ciências Nucleares Aplicadas à Saúde,
Portugal

2017/09/01 - 2017/09/01	RO-MAN2017 - IEEE International Symposium on Robot and Human Interactive Communication: Workshop on Artificial Perception, Machine Learning and Datasets for Human-Robot Interaction (ARMADA'17). (2017/09/01 - 2017/09/01) Workshop (Member of the Scientific Committee)	Universidade de Coimbra Instituto de Sistemas e Robótica, Portugal CNC.IBILI, Portugal
2017/07/06 - 2017/07/07	7th Iberian Congress on Perception (2017/07/06 - 2017/07/07) Congress (Member of the Organising Committee)	Universidade de Coimbra Instituto de Ciências Nucleares Aplicadas à Saúde, Portugal CNC.IBILI, Portugal
2012/09/05 - 2012/09/05	SYROCO 2012 - 10th IFAC Symposium on Robot Control - Co-chairing of session "Grasping" (2012/09/05 - 2012/09/05) Conference (Co-organisator)	Universidade de Coimbra, Portugal

Committee member

	Activity description Role	Institution / Organization
2007/08/31 - 2007/09/01	Students' representative in the University of Coimbra Physics Department council. Member	Universidade de Coimbra, Portugal

Conference scientific committee

	Conference title	Conference host
2021/06 - 2021/06	WHC 2021- IEEE World Haptics Conference	IEEE Robotics and Automotaton Society
2020/11 - 2020/11	SSRR 2020 - International Symposium on Safety, Security and Rescue Robotics	IEEE Robotics and Automotaton Society
2020/09 - 2020/09	RO-MAN 2020 - IEEE International Conference on Robot & Human Interactive Communication	IEEE Robotics and Automotaton Society
2020/08 - 2020/08	CASE 2020 - IEEE International Conference on Automation Science and Engineering	IEEE Robotics and Automotaton Society
2020/07 - 2020/07	UR 2020 - IEEE International Conference on Ubiquitous Robots	IEEE Robotics and Automotaton Society

2019/05/29 - 2019/05/31	ICAETT 2019 - International Conference on Advances in Emerging Trends and Technologies	Universidad Tecnológica Israel
2018/10/01 - 2018/10/05	IROS 2018 - IEEE/RSJ International Conference on Intelligent Robots and Systems	IEEE Robotics and Automation Society
2018/09/25 - 2018/09/27	IS 2018 - IEEE International Conference on Intelligent Systems	IEEE Technology and Engineering Management Society
2018/05/21 - 2018/05/25	ICRA 2018 - IEEE International Conference on Robotics and Automation	IEEE Robotics and Automation Society
2017/09/24 - 2017/09/28	IROS 2017 - IEEE/RSJ International Conference on Intelligent Robots and Systems	IEEE Robotics and Automation Society
2016/08/26 - 2016/08/31	RO-MAN 2016 - IEEE International Symposium on Human and Robot Interactive Communication	IEEE Robotics and Automation Society
2014/07/08 - 2014/07/11	AIM 2014 - IEEE/ASME International Conference on Advanced Intelligent Mechatronics	IEEE Robotics and Automation Society
2013/11/03 - 2013/11/07	IROS 2013 - IEEE/RSJ International Conference on Intelligent Robots and Systems	IEEE Robotics and Automation Society
2013/03/18 - 2013/03/22	SAC 2013 - 28th Symposium On Applied Computing	ACM-SIGAPP (Association for Computing Machinery - Special Interest Group on Applied Computing)
2012/11/05 - 2012/11/07	SYROCO 2012 - 10th IFAC Symposium on Robot Control	IFAC - International Federation of Automatic Control
2012/10/07 - 2012/10/12	IROS 2012 - IEEE/RSJ International Conference on Intelligent Robots and Systems	IEEE Robotics and Automation Society
2012/05/14 - 2012/05/18	ICRA 2012 - IEEE International Conference on Robotics and Automation	IEEE Robotics and Automation Society

Course / Discipline taught

	Academic session	Degree Subject (Type)	Institution / Organization
2009/02/01 - 2009/07/30	Biosignals Processing and Analysis	Engenharia Biomédica (Mestrado integrado)	Universidade de Coimbra, Portugal

Interview (tv / radio show)

	Program	Theme
2014/02/25 - 2014/02/25	HANDLE project - public final demonstration. Contributions: Data and code/algorithms to learn and	Autonomous robotic systems with perception and dexterous manipulation capabilities.

transfer manipulation skills from human to robot.
Data visualization tools.

2014/02/07 - 2014/02/07	HANDLE project - dissemination video. Presentation and demonstration of project outcomes.	Autonomous robotic systems with perception and dexterous manipulation capabilities.
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Journal scientific committee

	Journal title (ISSN)	Publisher
2021/02 - Current	Physics in Medicine and Biology (0031-9155)	IOP
2020/10 - Current	IEEE Transactions on Robotics (1552-3098)	IEEE
2020/07 - Current	IEEE Transactions on Cybernetics (2168-2267)	IEEE
2018/09 - Current	IEEE Intelligent Systems (1541-1672)	IEEE
2018/03/01 - Current	Neurocomputing (0925-2312)	Elsevier
2017/11/01 - Current	Journal of Field Robotics (1556-4967)	Wiley (John Wiley & Sons)
2017/10/01 - 2020/12/31	Paladyn Journal of Behavioral Robotics (2081-4836)	De Gruyter Open Sp. z o.o.
2020/01 - 2020/06	Scientific Reports (2045-2322)	Springer Science and Business Media LLC
2013/04/01 - 2014/08/31	International Journal of Robotics and Automation (0826-8185)	ACTA Press
2012/03/01 - 2012/04/30	Pattern Recognition Letters (0167-8655)	Elsevier

Mentoring / Tutoring

	Topic	Student name
2019/08/01 - Current	PhD Student, Doctoral Programme in Health Sciences, University of Coimbra.	Miguel Bajouco
2017/03/01 - Current	PhD Student, Doctoral Programme in Health Sciences, University of Coimbra.	Nuno Madeira
2019/07/01 - 2019/08/31	MSc student, Master in Biomedical Engineering, University of Coimbra.	Sofia Silva
2019/07/01 - 2019/08/01	MSc Student, Master in Biomedical Engineering, University of Coimbra.	Bruno Santos
2012/09/01 - 2012/11/30	MSc Student, Master in Biomedical Engineering, University of Coimbra.	Maria de Fátima Machado

2012/06/01 - 2012/08/31

MSc Student, Master in Mechanical Engineering, Khalifa University.

Hussam Al-Hussein

Other jury / evaluation

	Activity description	Institution / Organization
2013/03/01 - 2013/04/30	Invited evaluator in FP7-ICT ECHORD project (European Clearing House for Open Robotics Development) : evaluation of the experiments InterAID and ODEUO (outcomes of technology transfer experiments that have been funded by the European Commission).	Università degli Studi della Campania Luigi Vanvitelli, Italy

Distinctions

Award

2019	Janssen Neuroscience RWE Awards 2019 - clinical series Janssen Pharmaceutica NV, Belgium
2007	University of Coimbra - Top 3% best students award Universidade de Coimbra, Portugal
2007	University of Coimbra - best students merit award Universidade de Coimbra, Portugal
2006	University of Coimbra - Top 3% best students award Universidade de Coimbra, Portugal
2006	BPI-FCTUC best biomedical engineering student award Universidade de Coimbra Faculdade de Ciencias e Tecnologia, Portugal
2006	University of Coimbra - best students merit award Universidade de Coimbra, Portugal
2005	University of Coimbra - Top 3% best students award Universidade de Coimbra, Portugal
2005	BPI-FCTUC best biomedical engineering student award Universidade de Coimbra Faculdade de Ciencias e Tecnologia, Portugal
2005	University of Coimbra - best students merit award Universidade de Coimbra, Portugal
2003	BPI-FCTUC best biomedical engineering student award Universidade de Coimbra Faculdade de Ciencias e Tecnologia, Portugal
1996	1st place, I Internal Mathematical Olympiad High School E.B. 2,3/S Pedro da Fonseca, Portugal