

Juan G. Victores

Journal Articles (30)

1. Ana Calzada-Garcia, Juan G. Victores, Francisco J. Naranjo-Campos, and Carlos Balaguer. Inverse kinematics for robotic manipulators via deep neural networks: Experiments and results. *Applied Sciences*, 15, 6 2025a. ISSN 2076-3417. doi: 10.3390/app15137226. URL <https://doi.org/10.3390/app15137226> [robot] [kinematics] (Q1)
2. Johnny J. Yopez-Figueroa, Juan G. Victores, Edwin Daniel Oña, Carlos Balaguer, and Alberto Jardón. Design and development of an omnidirectional three-wheeled industrial mobile robot platform. *Applied Sciences*, 15, 2025. ISSN 2076-3417. doi: 10.3390/app15105277. URL <https://doi.org/10.3390/app15105277> [robot] [design] (Q1)
3. Ana Calzada-Garcia, Juan G. Victores, Francisco J. Naranjo-Campos, and Carlos Balaguer. A review on inverse kinematics, control and planning for robotic manipulators with and without obstacles via deep neural networks. *Algorithms*, 18, 1 2025b. ISSN 1999-4893. doi: 10.3390/a18010023. URL <https://doi.org/10.3390/a18010023> [robot] [kinematics] (Q2)
4. Francisco J. Naranjo-Campos, Juan G. Victores, and Carlos Balaguer. Expert-trajectory-based features for apprenticeship learning via inverse reinforcement learning for robotic manipulation. *Applied Sciences*, 14, 11 2024a. ISSN 2076-3417. doi: 10.3390/app142311131. URL <https://doi.org/10.3390/app142311131> [robot] [assistive] (Q1)
5. Francisco J. Naranjo-Campos, Juan G. Victores, and Carlos Balaguer. Method for bottle opening with a dual-arm robot. *Biomimetics*, 9, 9 2024b. ISSN 2313-7673. doi: 10.3390/biomimetics9090577. URL <https://doi.org/10.3390/biomimetics9090577> [robot] [assistive] (Q2)
6. Francisco J. Naranjo-Campos, Ainhoa De Matías-Martínez, Juan G. Victores, José A. Gutiérrez Dueñas, Almudena Alcaide, and Carlos Balaguer. Assistance in picking up and delivering objects for individuals with reduced mobility using the tiago robot. *Applied Sciences*, 14, 8 2024c. ISSN 2076-3417. doi: 10.3390/app14177536. URL <https://doi.org/10.3390/app14177536> [robot] [assistive] (Q1)
7. Stephen Fox and Juan G. Victores. Safety of human-artificial intelligence systems: Applying safety science to analyze loopholes in interactions between human organizations, artificial intelligence, and individual people. *Informatics*, 11:36, 2024. doi: 10.3390/informatics11020036. URL <https://doi.org/10.3390/informatics11020036> [aml] (Q2)
8. Rubén de-la Torre, Edwin Daniel Oña, Juan G. Victores, and Alberto Jardón. Spasticsim: a synthetic data generation method for upper limb spasticity modelling in neurorehabilitation. *Scientific Reports*, 14:1646, 1 2024. ISSN 2045-2322. doi: 10.1038/s41598-024-51993-w. URL <https://doi.org/10.1038/s41598-024-51993-w> [robot] [rehabilitation] (Q2)
9. Raul Fernandez-Fernandez, Bartek Łukawski, Juan G. Victores, and Claudio Pacchierotti. Transferring human emotions to robot motions using neural policy style transfer. *Cognitive Systems Research*, 82:101121, 12 2023a. ISSN 1389-0417. doi: 10.1016/J.COGSYS.2023.05.010. URL <https://doi.org/10.1016/J.COGSYS.2023.05.010> [robot] [xgnitive: cgda] (Q2)
10. Raul Fernandez-Fernandez, Juan G. Victores, and Carlos Balaguer. Deep robot sketching: An application of deep q-learning networks for human-like sketching. *Cognitive Systems Research*, 81:57–63, 9 2023b. ISSN 1389-0417. doi: 10.1016/J.COGSYS.2023.05.004. URL <https://doi.org/10.1016/J.COGSYS.2023.05.004> [robot] [xgnitive: cgda] (Q2)

11. Raul Fernandez-Fernandez, Juan G. Victores, Jennifer J. Gago, David Estevez, and Carlos Balaguer. Neural policy style transfer. *Cognitive Systems Research*, 72:23–32, 3 2022a. ISSN 1389-0417. doi: 10.1016/j.cogsys.2021.11.003. URL <https://doi.org/10.1016/j.cogsys.2021.11.003> [robot] [xg-nitive: cgda] (Q2)
12. Andrea Gil Ruiz, Juan G. Victores, Bartek Łukawski, and Carlos Balaguer. Design of an active vision system for high-level isolation units through q-learning. *Applied Sciences*, 10:5927, 8 2020. ISSN 2076-3417. doi: 10.3390/app10175927. URL <https://doi.org/10.3390/app10175927> [robot] [textiles: horus] (Q2)
13. David Estevez, Juan G. Victores, Raul Fernandez-Fernandez, and Carlos Balaguer. Enabling garment-agnostic laundry tasks for a robot household companion. *Robotics and Autonomous Systems*, 123: 103330, 1 2020. ISSN 0921-8890. doi: 10.1016/j.robot.2019.103330. URL <https://doi.org/10.1016/j.robot.2019.103330> [robot] [textiles: folding] [textiles: ironing] (Q2)
14. Alice Stazio, Juan G. Victores, David Estevez, and Carlos Balaguer. A study on machine vision techniques for the inspection of health personnels’ protective suits for the treatment of patients in extreme isolation. *Electronics*, 8:743, 6 2019. doi: 10.3390/electronics8070743. URL <https://doi.org/10.3390/electronics8070743> [robot] [textiles: horus] (Q2)
15. Jennifer J. Gago, Juan G. Victores, and Carlos Balaguer. Sign language representation by teo humanoid robot: End-user interest, comprehension and satisfaction. *Electronics*, 8:57, 1 2019a. ISSN 2079-9292. doi: 10.3390/electronics8010057. URL <https://doi.org/10.3390/electronics8010057> [robot] [sign-language] (Q2)
16. Raul Fernandez-Fernandez, Juan G. Victores, David Estevez, and Carlos Balaguer. Real evaluations tractability using continuous goal-directed actions in smart city applications. *Sensors*, 18:3818, 11 2018a. ISSN 1424-8220. doi: 10.3390/s18113818. URL <https://doi.org/10.3390/s18113818> [robot] [xgntive: cgda] (Q1)
17. Santiago Martinez, Juan Miguel Garcia-Haro, Juan G. Victores, Alberto Jardon, and Carlos Balaguer. Experimental robot model adjustments based on force-torque sensor information. *Sensors*, 18:836, 3 2018. ISSN 14248220. doi: 10.3390/s18030836. URL <https://doi.org/10.3390/s18030836> [robot] [humanoid] (Q1)
18. Elisabeth Menendez, Juan G. Victores, Roberto Montero, Santiago Martínez, and Carlos Balaguer. Tunnel structural inspection and assessment using an autonomous robotic system. *Automation in Construction*, 87:117–126, 3 2018. ISSN 09265805. doi: 10.1016/j.autcon.2017.12.001. URL <https://doi.org/10.1016/j.autcon.2017.12.001> [robot] [construction] (Q1)
19. Eugenio Marinetto, Juan G. Victores, Mónica García-Sevilla, Mercedes Muñoz, Felipe Ángel Calvo, Carlos Balaguer, Manuel Desco, and Javier Pascau. Technical note: Mobile accelerator guidance using an optical tracker during docking in ioert procedures. *Medical Physics*, 44:5061–5069, 2017. ISSN 2473-4209. doi: 10.1002/mp.12482. URL <http://dx.doi.org/10.1002/mp.12482> [robot] [medical] (Q1)
20. Konstantinos Loupos, Anastasios D Doulamis, Christos Stentoumis, Eftychios Protopapadakis, Konstantinos Makantasis, Nikolaos D Doulamis, Angelos Amditis, Philippe Chrobocinski, Juan G. Victores, Roberto Montero, Elisabeth Menendez, Carlos Balaguer, Rafa Lopez, Miquel Cantero, Roman Navarro, Alberto Roncaglia, Luca Belsito, Stephanos Camarinopoulos, Nikolaos Komodakis, and Praveer Singh. Autonomous robotic system for tunnel structural inspection and assessment. *International Journal of Intelligent Robotics and Applications*, pages 1–24, 2017. ISSN 2366-598X. doi: 10.1007/s41315-017-0031-9. URL <https://doi.org/10.1007/s41315-017-0031-9> [robot] [construction]

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22. Santiago Morante, Juan G. Victores, and Carlos Balaguer. Cryptobotics: Why robots need cyber safety. *Frontiers in Robotics and AI*, 2:1–4, 2015a. doi: 10.3389/frobt.2015.00023. URL <http://dx.doi.org/10.3389/frobt.2015.00023> [robot] [cryptography]
23. Roberto Montero, Juan G. Victores, Santiago Martínez, Alberto Jardón, and Carlos Balaguer. Past, present and future of robotic tunnel inspection. *Automation in Construction*, 59:99–112, 2015a. doi: 10.1016/j.autcon.2015.02.003. URL <http://dx.doi.org/10.1016/j.autcon.2015.02.003> [robot] [construction] (Q1)
24. Santiago Morante, Juan G. Victores, Alberto Jardón, and Carlos Balaguer. Humanoid robot imitation through continuous goal-directed actions: An evolutionary approach. *Advanced Robotics*, 29:303–314, 2015b. ISSN 1568-5535. doi: 10.1080/01691864.2014.964314. URL <http://dx.doi.org/10.1080/01691864.2014.964314> [robot] [xgnitive: cgda] (Q4)
25. Juan G. Victores, Santiago Morante, Alberto Jardón, and Carlos Balaguer. An accessible interface for programming an assistive robot. *Journal of Accessibility and Design for All (JACCES)*, 4:161–176, 2014a. ISSN 2013-7087. doi: 10.17411/jacces.v4i3.49. URL <http://dx.doi.org/10.17411/jacces.v4i3.49> [robot] [assistive]
26. Jonathan Crespo, Ramon Barber, Juan G. Victores, and Alberto Jardón. Algorithm for graph visibility obtainment from a map of non-convex polygons. *Journal of Mechanical Engineering and Robotics Research*, 3:150–170, 2014. ISSN 2278-0149. URL http://www.ijmerr.com/v3n2/ijmerr_v3n2_19.pdf [robot] [planning]
27. Santiago Martínez, Alberto Jardón, Juan G. Victores, and Carlos Balaguer. Flexible field factory for construction industry. *Assembly Automation*, 33:175–183, 2013. doi: 10.1108/01445151311306708. URL <http://dx.doi.org/10.1108/01445151311306708> [robot] [construction] (Q4)
28. Alberto Jardón, Juan G. Victores, Santiago Martínez, and Carlos Balaguer. Experience acquisition simulator for operating microtunneling boring machines. *Automation in Construction*, 23:33–46, 2012a. doi: 10.1016/j.autcon.2011.12.002. URL <http://dx.doi.org/10.1016/j.autcon.2011.12.002> [robot] [construction] (Q1)
29. Alberto Jardón, Juan G. Victores, Santiago Martínez, Antonio Giménez, and Carlos Balaguer. Personal autonomy rehabilitation in home environments by a portable assistive robot. *IEEE Trans. on Systems, Man, and Cybernetics, Part C: Applications and Reviews*, 42:561–570, 2011a. doi: 10.1109/TSMCC.2011.2159201. URL <http://dx.doi.org/10.1109/TSMCC.2011.2159201> [robot] [assistive] (Q1)
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Patents (2)

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2. Juan G. Victores, Santiago Martinez, Alberto Jardón, and Carlos Balaguer. Tool and method for the automatic remote application of strips of fibre-reinforced polymer tape, comprising the dispensing of epoxy adhesive, 2011b. URL <http://www.google.im/patents/WO2011138481A1?c1=en> [robot] [construction]

Book Chapters (9)

1. Juan G. Victores, Elisabeth Menendez, and Carlos Balaguer. Tunnel structural inspection and assessment using an autonomous robotic system. pages 185–203. Wiley Online Library, 2024. doi: 10.1002/9781394162871.ch9. URL <https://doi.org/10.1002/9781394162871.ch9> [robot] [construction]
2. Raul Fernandez-Fernandez, Juan G. Victores, and Carlos Balaguer. New trends and challenges in the automatic generation of new tasks for humanoid robots. pages 169–176. CSIC, 5 2016. ISBN 978-84-608-8452-1. URL <http://www.robocity2030.org/events/event/evento-esp-2-2/> [robot] [xgnitive: cgda]
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4. David Estevez, Juan G. Victores, and Carlos Balaguer. Future trends in perception and manipulation for unfolding and folding garments. pages 333–340. CSIC, 5 2016b. URL <http://www.robocity2030.org/events/event/evento-esp-2-2/> [robot] [textiles: folding]
5. Roberto Montero, Juan G. Victores, Elisabeth Menéndez, and Carlos Balaguer. The robot-spect eu project: Autonomous robotic tunnel inspection. pages 91–100. 2015b. URL <http://www.robocity2030.org/events/event/13th-robocity2030-workshop/> [robot] [construction]
6. Santiago Morante, Juan G. Victores, Santiago Martínez, and Carlos Balaguer. Force-sensorless friction and gravity compensation for robots. volume 418. Springer International Publishing, 2015c. ISBN 9783319271484. doi: 10.1007/978-3-319-27149-1_5. URL http://doi.org/10.1007/978-3-319-27149-1_5 [robot] [modelling]
7. Alberto Jardón, Félix R. Cañadillas, Juan G. Victores, Santiago Martínez, and Carlos Balaguer. A review of eight years of ceabot contest: A national wide mini humanoids competition. pages 41–52. Springer International Publishing, 2014a. ISBN 978-3-319-03652-6. doi: 10.1007/978-3-319-03653-3_4. URL http://dx.doi.org/10.1007/978-3-319-03653-3_4 [robot] [educational]
8. Juan G. Victores, Félix R. Cañadillas, Santiago Morante, Alberto Jardón, and Carlos Balaguer. Assistive robot multi-modal interaction with augmented 3d vision and dialogue. pages 209–217. Springer International Publishing, 2014b. ISBN 978-3-319-03412-6. doi: 10.1007/978-3-319-03413-3_15. URL http://dx.doi.org/10.1007/978-3-319-03413-3_15 [robot] [assistive]
9. Carlos Balaguer and Juan G. Victores. Robotic tunnel inspection and repair. pages 445–460. CRC Press, 2010. URL <http://www.crcpress.com/product/isbn/9780415551052> [robot] [construction]

Conference Proceedings (75)

1. Ignacio Montesino, Aroa Bachiller Gomez, Juan G. Victores, Carlos Balaguer, and Alberto Jardon. Quasi-god object and geodesically restricted 6-dof haptic forces for compliant constraints and low frequency simulation. IEEE/RSJ, 10 2025 [robot] [assistive]

2. Bartek Łukawski, Miquel Martín, Carmen Menchén, Edwin D. Oña, Juan G. Victores, and Alberto Jardón. Espresso macchiato, por favore: collaborative robotic coffee-making for education. Universidade da Coruña. Servizo de publicacións, 9 2025a [robot] [assistive]
3. Bartek Łukawski, Mercedes Rebollo, Ángel Gilabert, Juan G. Victores, Carlos Balaguer, and Alberto Jardón. Yarp cartesian controller layers over ros 2 for teleoperation and web apps. Universidade da Coruña. Servizo de publicacións, 9 2025b [robot] [assistive]
4. Francisco J. Naranjo-Campos, Juan G. Victores, Ana Calzada-Garcia, and Carlos Balaguer. Manipulación robótica mediante aprendizaje por refuerzo inverso con características basadas en trayectorias expertas. Universidade da Coruña. Servizo de publicacións, 9 2025a [robot] [assistive]
5. Bartek Łukawski, Edwin Daniel Oña, Alberto Jardón, Juan G. Victores, and Carlos Balaguer. Development of educational applications with abb gofa collaborative robot using externally guided motion. 7 2025c [robot] [educational]
6. Bartek Łukawski, Juan G. Victores, Carlos Balaguer, and Alberto Jardón. Interaction with a humanoid robot through a conversational interface using deepseek. 6 2025d. doi: 10.64117/simposioscea.v1i1.65. URL <https://doi.org/10.64117/simposioscea.v1i1.65> [robot] [teleoperation]
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8. Bartek Łukawski, Ignacio Montesino, Edwin Daniel Oña, Juan G. Victores, Carlos Balaguer, and Alberto Jardon. Towards the development of telepresence applications with tiago and tiago++ using a virtual reality headset. pages 192–197, 4 2025e. doi: 10.1109/ICARSC65809.2025.10970173. URL <https://doi.org/10.1109/ICARSC65809.2025.10970173> [robot] [teleoperation]
9. Ignacio Montesino, Juan G. Victores, Carlos Balaguer, and Alberto Jardón. Cartesian impedance control generalized to one-parameter splines. pages 4701–4707, 2024a. doi: 10.1109/IROS58592.2024.10801939. URL <https://doi.org/10.1109/IROS58592.2024.10801939> [robot] [assistive]
10. Alicia Herrera García-Mascaraque, Ignacio Montesino, Juan G. Victores, Carlos Balaguer, and Alberto Jardón. Integrator for musculoskeletal simulation in python. Universidade da Coruña. Servizo de publicacións, 7 2024. URL <https://doi.org/10.17979/ja-cea.2024.45.10802> [robot] [assistive]
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13. Francisco J. Naranjo-Campos, Ainhoa De Matías-Martínez, Juan G. Victores, José A. Gutiérrez Dueñas, Almudena Alcaide, and Carlos Balaguer. Robot tiago para servicio en cafetería. Universidade da Coruña. Servizo de publicacións, 7 2024d. URL <https://doi.org/10.17979/ja-cea.2024.45.10795> [robot] [assistive]
14. Bartek Łukawski, Alberto Rodríguez-Sanz, Elisabeth Menendez, Juan G. Victores, and Carlos Balaguer. A user-friendly point cloud processing pipeline for interfacing pcl with yarp. Universidade da Coruña. Servizo de publicacións, 7 2024a. URL <https://doi.org/10.17979/ja-cea.2024.45.10925> [robot] [teleoperation]

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16. Bartek Łukawski, Alberto Rodríguez Sanz, Juan G. Victores, and Carlos Balaguer. An open-source implementation of a force-torque sensor data acquisition device for the humanoid robot teo. pages 79–84. Universidad de Extremadura. Servicio de Publicaciones, 5 2024b. ISBN 978-84-9127-262-5. URL <http://hdl.handle.net/10662/21260> [robot]
17. Johnny J. Yopez-Figueroa, Juan G. Victores, Alberto Jardón, and Carlos Balaguer. Diseño mecatrónico y construcción de un robot móvil omni-direccional de tres ruedas para transporte de carga en ambientes industriales. pages 43–48. Universidad de Extremadura. Servicio de Publicaciones, 5 2024. ISBN 978-84-9127-262-5. URL <http://hdl.handle.net/10662/21260> [robot] [design]
18. Francisco José Naranjo-Campos, Ainhoa de Matías Martínez, Juan G. Victores, José Antonio Gutiérrez Dueñas, Almudena Alcaide, and Carlos Balaguer. Detección y manipulación de botellas con el robot móvil manipulador tiago. pages 37–42. Universidad de Extremadura. Servicio de Publicaciones, 5 2024e. ISBN 978-84-9127-262-5. URL <http://hdl.handle.net/10662/21260> [robot] [assistive]
19. Bartek Łukawski, Juan G. Victores, and Carlos Balaguer. A generic controller for teleoperation on robotic manipulators using low-cost devices. pages 785–788. Servizo de Publicacións. Universidade da Coruña, 9 2023. doi: 10.17979/spudc.9788497498609.785. URL <https://doi.org/10.17979/spudc.9788497498609.785> [robot] [assistive]
20. Sofia Hernández Pérez, Ignacio Montesino Valle, Juan G. Victores, Edwin Daniel Oña, and Alberto Jardón Huete. Ros2 gesture classification pipeline towards gamified neuro-rehabilitation therapy. pages 611–616. Servizo de Publicacións. Universidade da Coruña, 9 2023. doi: 10.17979/spudc.9788497498609.611. URL <https://doi.org/10.17979/spudc.9788497498609.611> [robot] [assistive]
21. Ainhoa De Matías-Martínez, Francisco J. Naranjo-Campos, Juan G. Victores, and Carlos Balaguer. Planificador global se(2) para la navegación de robots móviles manipuladores en ros. pages 85–90. CEA UPM CSIC, 6 2023. ISBN 978-84-09-51892-0. doi: 10.20868/UPM.book.74896. URL <https://doi.org/10.20868/UPM.book.74896> [robot] [planning]
22. Bartek Łukawski, Ignacio Montesino Valle, Juan G. Victores, Alberto Jardón, and Carlos Balaguer. An inverse kinematics problem solver based on screw theory for manipulator arms. pages 864–869. Servizo de Publicacións da UDC, 9 2022. doi: 10.17979/spudc.9788497498418.0864. URL <https://doi.org/10.17979/spudc.9788497498418.0864> [robot] [kinematics]
23. Ignacio Montesino Valle, Bartek Łukawski, Juan G. Victores, Alberto Jardón Huete, and Carlos Balaguer. Entorno de gym basado en impedancia para el robot colaborativo iiwa de cara a interacción humano robot. pages 762–769. Servizo de Publicacións da UDC, 9 2022. doi: 10.17979/spudc.9788497498418.0762. URL <https://doi.org/10.17979/spudc.9788497498418.0762> [robot] [assistive]
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28. Jennifer J. Gago, Valentina Vasco, Bartek Łukawski, Ugo Pattacini, Vadim Tikhanoff, Juan G. Victores, and Carlos Balaguer. Sequence-to-sequence natural language to humanoid robot sign language. page 44. ARGESIM, 7 2019b. ISBN 978-3-901608-92-6. doi: 10.11128/arep.58. URL <https://www.doi.org/10.11128/arep.58> [robot] [sign-language]
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1. Raul Fernandez-Fernandez. *Action Generalization in Humanoid Robots Through Artificial Intelligence With Learning From Demonstration*. PhD thesis, Universidad Carlos III de Madrid, 9 2021. URL <https://hdl.handle.net/10016/33536>
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Research Stays (2)

- Oct. 2018 – **The University of Manchester.** Cognitive Robotics Lab.
Jan. 2019 Estancia de 3 meses destinado a la investigación del uso de Deep Learning para el estudio de conceptos abstractos con el robot iCub (Manchester, UK).
- Sept. 2011 – **Istituto Italiano di Tecnologia.** Department of Robotics, Brain and Cognitive Sciences.
Dic. 2011 Estancia de 3 meses destinado a la investigación del uso de Support Vector Machines y Gaussianas mixtas para el control en fuerza del robot iCub (Génova, Italia).

Workshop Organizer (2)

1. Juan G. Victores, Lorenzo Natale, Eiichi Yoshida. Towards Humanoid Robots OS. HUMANOIDS. Cancun, Mexico. Nov 15. 2016. <https://roboticslab-uc3m.github.io/workshop-humanoids2016/>
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