

Fecha del CVA	27/05/2022
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Parte A. DATOS PERSONALES

Nombre	José Raúl		
Apellidos	Ruiz Sarmiento		
Sexo	Hombre	Fecha de Nacimiento	07/11/1984
DNI/NIE/Pasaporte	53368773-X		
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A.1. Situación profesional actual

Puesto	Profesor Ayudante Doctor		
Fecha inicio	2021		
Organismo / Institución	Universidad de Málaga		
Departamento / Centro	Ingeniería de Sistemas y Automática / ETS Ingeniería Informática		
País		Teléfono	
Palabras clave			

A.2. Situación profesional anterior (incluye interrupciones en la carrera investigadora - indicar meses totales, según texto convocatoria-)

Periodo	Puesto / Institución / País
2020 - 2021	Profesor Sustituto Interino / Universidad de Málaga
2016 - 2020	Investigador post-doctoral / Universidad de Málaga
2012 - 2015	Personal Investigador en Formación / Universidad de Málaga

A.3. Formación académica

Grado/Master/Tesis	Universidad / País	Año
Doctor en Ingeniería Informática	Universidad de Málaga. Escuela Técnica Superior de Ingeniería Informática	2016
Máster Universitario en Ingeniería Mecatrónica	Universidad de Málaga. Escuela Técnica Superior de Ingeniería Industrial	2011
Ingeniería Informática	Universidad de Málaga. Escuela Técnica Superior de Ingeniería Informática	2009

Parte B. RESUMEN DEL CV

I joined the Machine Perception and Intelligent Robotics group (MAPIR), from the Department of Systems Engineering and Automation at the University of Málaga, in September 2008. In July 2009 I received the B.Sc in "Computer Science Engineering" from the same University, and one year later the M.Sc in "Mechatronics Engineering". Since then, I was involved in different projects as the TCS national one or the European project ExCITE. In January 2012 I obtained a FPU grant from the Spanish government, a great opportunity to take advantage of 4 years as PhD. Student. In November 2016 I completed my PhD in Computer Science with honours (Suma Cum Laude) at the University of Málaga. Nowadays, I'm a post-doc researcher at MAPIR.

The research line during my PhD studies was the improvement of the cognitive abilities of mobile robots. In that time, I completed a stay at the Knowledge-Based Systems group, at the Institute of Computer Science, University of Osnabrück (Germany), under the supervision of

Professor Joachim Hertzberg. I also attended to different courses to complete my researcher profile (for example, “Writing in the sciences”, given by the Stanford University, and the participation in the “First Örebro Winter School in Artificial Intelligence and Robotics”).

Since then, I have participated and collaborated in different national and European projects, as well as in contracts with companies, summing up 9 participations. I am also a member of the Institute of Biomedical Research of Málaga (IBIMA), which permits me to apply the acquired knowledge in the exciting field of biomedicine.

I had the opportunity to enjoy a postdoc contract from the “I Plan Propio de Investigación y Transferencia” from the University of Málaga. During this contract I completed a stay in the Active Vision Laboratory group (AVL), at the University of Oxford (United Kingdom), under the supervision of the Associate Professor Victor Adrian Prisacariu. Nowadays, I am an assistant lecturer at the University of Málaga. I keep active in the production of scientific papers, summing up 17 publications in indexed journals, 27 conferences, 6 book chapters, and a technical report. Additionally, I collaborate with the paper review process with more than 50 papers reviewed. My scientific activity has received 3 awards (standing out the ROBOTNIK’17 award to the best PhD thesis in robotics), and has been finalist in a fourth one.

Regarding my experience as a lecturer, I have given practical lessons during 5 academic courses in subjects belonging to the Faculties of Computer Science, and Industrial Engineering, at the University of Málaga, co-supervised 8 end of course projects, and published results covering different teaching techniques in 5 educational conferences and an international journal paper. I have also participated in 2 Innovative Education Projects, being the coordinator in one of them.

As an open-source-loving person, I have released two datasets (Robot@Home and UMA-Offices), and maintain several GitHub repositories with software resources, highlighting UPGM ++, OLT and mVision. More information in <https://mapir.isa.uma.es/jotaraul>

Parte C. LISTADO DE APORTACIONES MÁS RELEVANTES

C.1. Publicaciones más importantes en libros y revistas con “peer review” y conferencias

AC: Autor de correspondencia; (nº x / nº y): posición firma solicitante / total autores. Si aplica, indique el número de citas

- 1 Artículo científico.** D. Fernandez-Chaves; J.R. Ruiz-Sarmiento; N. Petkov; J. Gonzalez-Jimenez. 2021. ViMantic, a distributed robotic architecture for semantic mapping in indoor environments Knowledge-Based Systems. Elsevier. 232, pp.107440. ISSN 0950-7051.
- 2 Artículo científico.** J.R. Ruiz-Sarmiento; S.F. Baltanas; Javier Gonzalez-Jimenez. 2021. Jupyter Notebooks in Undergraduate Mobile Robotics Courses: Educational Tool and Case Study Applied Sciences. MDPI. 11-3, pp.917.
- 3 Artículo científico.** S.F. Baltanas; J.R. Ruiz-Sarmiento; Javier Gonzalez-Jimenez. 2021. Improving the Head Pose Variation Problem in Face Recognition for Mobile Robots Sensors. MDPI. 21-2, pp.659.
- 4 Artículo científico.** Francisco-Angel Moreno; Javier Monroy; Jose-Raul Ruiz Sarmiento; Cipriano Galindo; Javier Gonzalez Jimenez. 2019. Automatic Waypoint Generation to Improve Robot Navigation Through Narrow Spaces MDPI Sensors. MDPI. 20-1.
- 5 Artículo científico.** Javier Monroy; Jose-Raul Ruiz Sarmiento; Francisco-Angel Moreno; Cipriano Galindo; Javier Gonzalez Jimenez. 2019. Olfaction, Vision, and Semantics for Mobile Robots. Results of the IRO Project MDPI Sensors. MDPI. 19-16.

- 6 **Artículo científico.** David Zuñiga Noël; Jose-Raul Ruiz Sarmiento; Ruben Gomez Ojeda; Javier Gonzalez Jimenez. 2019. Automatic Multi-Sensor Extrinsic Calibration For Mobile Robots IEEE Robotics and Automation Letters. IEEE. 4-3, pp.2862-2869.
- 7 **Artículo científico.** Jose-Raul Ruiz Sarmiento; Cipriano Galindo; Javier Monroy; Francisco-Angel Moreno; Javier Gonzalez Jimenez. 2019. Ontology-based conditional random fields for object recognition International Journal of Knowledge-Based Systems. Elsevier. 168, pp.100-108.
- 8 **Artículo científico.** Martin Günther; Jose-Raul Ruiz Sarmiento; Cipriano Galindo; Javier Gonzalez Jimenez; Joachim Hertzberg. 2018. Context-aware 3D object anchoring for mobile robots Robotics and Autonomous Systems. Elsevier. 110, pp.12-32. ISSN 0921-8890.
- 9 **Artículo científico.** Javier Monroy; Ruiz-Sarmiento J.R.; Francisco Melendez-Fernandez; Cipriano Galindo; Javier Gonzalez-Jimenez. (2/5). 2018. A Semantic-Based Gas Source Localization with a Mobile Robot Combining Vision and Chemical Sensing Sensors. 18-12. ISSN 1424-8220.
- 10 **Artículo científico.** Ruiz-Sarmiento, José Raúl; Galindo-Andrades, Cipriano; González-Jiménez, Javier. 2017. A survey on learning approaches for Undirected Graphical Models. Application to scene object recognition International Journal of Approximate Reasoning. 83, pp.434-451.
- 11 **Artículo científico.** Ruiz-Sarmiento, José Raúl; Galindo-Andrades, Cipriano; González-Jiménez, Javier. 2017. Building Multiversal Semantic Maps for Mobile Robot Operation Knowledge-Based Systems. 119, pp.257-272.
- 12 **Artículo científico.** Galindo-Andrades, Cipriano; González-Jiménez, Javier; Francisco Melendez-Fernandez; Ruiz-Sarmiento, José Raúl. 2017. ExCITE Project: A Review of Forty-two Months of Robotic Telepresence Technology Evolution Presence: Teleoperators and Virtual Environments . 25-3, pp.204-211.
- 13 **Artículo científico.** Ruiz-Sarmiento, José Raúl; Galindo-Andrades, Cipriano; González-Jiménez, Javier. 2017. Robot@Home, a robotic dataset for semantic mapping of home environments The International Journal of Robotics Research. 36-2, pp.131-141.
- 14 **Artículo científico.** González-Jiménez, Javier; Arevalo-Espejo, Vicente Manuel; Galindo-Andrades, Cipriano; Ruiz-Sarmiento, José Raúl. 2016. An Automated Surveying and Marking System for Continuous Setting-out of Tunnels Computer-Aided Civil and Infrastructure Engineering. 31-3, pp.219-228.
- 15 **Artículo científico.** Ruiz-Sarmiento, José Raúl; Galindo-Andrades, Cipriano; González-Jiménez, Javier. 2015. Exploiting semantic knowledge for robot object recognition Knowledge-Based Systems. 86, pp.131-142.
- 16 **Artículo científico.** Ruiz-Sarmiento, José Raúl; Galindo-Andrades, Cipriano; González-Jiménez, Javier. 2015. Scene Object Recognition for Mobile Robots Through Semantic Knowledge and Probabilistic Graphical Models Expert Systems With Applications. 42-22, pp.8805-8816.
- 17 **Capítulo de libro.** Jose-Raul Ruiz Sarmiento; Cipriano Galindo; Javier Gonzalez Jimenez. 2011. Improving Human Face Detection through TOF Cameras for Ambient Intelligence Applications Ambient Intelligence - Software and Applications, Advances in Intelligent and Soft Computing. Springer. 92, pp.125-132.
- 18 **Libro o monografía científica.** Jose-Raul Ruiz Sarmiento. 2016. Probabilistic techniques in semantic mapping for mobile robotics UMA Editorial.

C.2. Congresos

- 1 Henry Howard Jenkins; Jose Raul Ruiz Sarmiento; Victor Adrian Prisacariu. LaLaLoc: Latent Layout Localisation in Dynamic, Unvisited Environments. IEEE/CVF International Conference on Computer Vision (ICCV). The Computer Vision Foundation, IEEE. 2021.
- 2 David Fernandez Chaves; Jose Luis Matez Bandera; Jose Raul Ruiz Sarmiento; Javier Gonzalez Monroy; Nicolai Petkov; Javier González Jiménez. Exploiting Spatio-Temporal Coherence for Video Object Detection in Robotics. International Conference on Computer Analysis of Images and Patterns. University of Cyprus. 2020. Chipre.
- 3 David Chaves; Jose-Raul Ruiz Sarmiento; N. Petkov; Javier Gonzalez Jimenez. From Object Detection to Room Categorization in Robotics. International Conference on Applications of Intelligent Systems (APPIS). 2020. España.

- 4 Mateo Luperto; Javier Monroy; F.A. Moreno; Jose-Raul Ruiz Sarmiento; N. Basilico; Javier Gonzalez Jimenez; N.A. Borghese. A Multi-Actor Framework Centered around an Assistive Mobile Robot for Elderly People Living Alone. IEEE International Conference on Intelligent Robots (IROS), Workshop on Robots for Assisted Living. 2018. España.

C.3. Proyectos o líneas de investigación

- 1 **Proyecto.** PID2020-117057GB-I00, ARPEGGIO: Advanced Robotic Perception for Mapping and Localization. Proyectos de I+D+i, Ministerio de Ciencia e Innovación. Javier Gonzalez Jimenez. (Universidad de Málaga). 01/09/2021-31/08/2024.
- 2 **Proyecto.** P20_01302, HOUNDBOT: Creación de mapas de gas y localización de fuente con un robot móvil. Javier Gonzalez Jimenez. (Universidad de Málaga). 01/10/2021-30/09/2023.
- 3 **Proyecto.** DPI2017-84827-R, WISER: Building and exploiting semantic maps by mobile robots. Javier Gonzalez Jimenez. (Universidad de Málaga). 01/01/2018-31/12/2020. 125.000 €.
- 4 **Proyecto.** EQC2018-004571-P, 6im: Laboratorio Exaescalable para Inteligencia Artificial y Modelado Numérico. Ministerio de Economía y Competitividad. Enrique Alba. (Universidad de Málaga). 20/11/2018-19/11/2020. 826.298 €.
- 5 **Proyecto.** 732158, MoveCare: Multiple-actOrs Virtual Empathic CARgiver for the Elder. Comisión Europea. Javier Gonzalez Jimenez. (Universidad de Málaga). 01/01/2017-31/12/2019. 5.933.611,25 €.
- 6 **Proyecto.** TEP2012-530, IRO: Mejora de la capacidad sensorial y autónoma de robots mediante olfato. CEICE. JAVIER GONZALEZ JIMENEZ. (Universidad de Málaga). 29/01/2014-28/01/2018. 177.286,25 €. Miembro de equipo.
- 7 **Proyecto.** DPI2014-55826-R, PROMOVE: Avances en Robótica Móvil para Promover la Vida Independiente de Personas Mayores. MINECO. JAVIER GONZALEZ JIMENEZ. (Universidad de Málaga). 01/01/2015-31/12/2017. 126.900 €. Miembro de equipo.
- 8 **Proyecto.** DPI2011-25483, TAROTH: Nuevos desarrollos hacia un robot en casa. MICINN. JAVIER GONZALEZ JIMENEZ. (Universidad de Málaga). 01/01/2012-31/12/2015. 147.620 €.
- 9 **Proyecto.** EXCITE: Enabling SoCial Interaction Through Embodiment. UNIÓN EUROPEA. JAVIER GONZALEZ JIMENEZ. (Universidad de Málaga). 01/07/2010-31/12/2013. 112.000 €.
- 10 **Contrato.** SiMoDiM: Monitorización y Diagnóstico para la transformación digital del mantenimiento predictivo y correctivo de la maquinaria industrial del proceso de laminación en caliente Acerinox Europa S.A.U.. Javier Gonzalez Giménez. 01/03/2017-01/03/2018. 47.997,28 €.
- 11 **Contrato.** Sistema de Replanteo y Marcado Continuo de Túneles SACYR VALLEHERMOSO SA. JAVIER GONZALEZ JIMENEZ. (Universidad de Málaga). 01/11/2008-01/05/2011. 205.985 €.