MINISTERIO
DE CIENCIA, INNOVACIÓN
Y UNIVERSIDADES

Part A. PERSONAL INFORMATION

		CV date	19/10/2022

First and Family name	RICARDO VÁZQUEZ MARTÍN		
Social Security, Passport, ID number		Age	47
Researcher numbers		Researcher ID	H-8422-2015
		Orcid code	0000-0003-1742-6852

A.1. Current position

Name of University/Institution	University of Malaga		
Department	Systems engineering and automation		
Address and Country	C/ Dr. Ortiz Ramos s/n 29071 – Málaga (SPAIN)		
Phone number		E-mail	rvmartin@uma.es
Current position	Associate Professor	From	05/05/2016
Espec. cód. UNESCO	3311.01		
Keywords	robotics, computer vision, industry 4.0		

A.2. Education

PhD	University	Year
Philosophy Doctor	University of Malaga	2009
Industrial Engineer	University of Malaga	2002

A.3. JCR articles, h Index, thesis supervised…

- Number of Sexenios: 2 (research)
- Number of defended PhD Theses supervised in the last ten years: 1
- Total sum of the times cited: 195 (WoS) – 320 (Scopus)
- Average citations per year in the last 5 years: 14.8 (WoS) – 21 (Scopus)
- Total paper in rank Q1: 3
- H-Index: 9 (WoS) – 9 (Scopus)
- Other
  - Number of papers in ranked conferences: 5 (index: A+ – source: CORE/SCIE)

Part B. CV SUMMARY *(max. 3500 characters, including spaces)*

Industrial engineer and PhD from University of Malaga since 2002 and 2009, respectively. After three years working in industrial automation and home automation in two companies, in 2003 come back to the University to join the Electronic Technology department as research staff in mobile robotics. Later, in 2005 he continues his work in other R&D projects, also beginning a new line of research to work in his doctoral thesis. During this time he works as a researcher hired in several research projects while researching in areas such as laser rangefinder and visual perception, simultaneous localization and mapping (SLAM), topics that comprise his doctoral thesis defended in 2009. During those years he also have been in two stays as invited researcher, at University of Coimbra (at Institute of Systems and Robotics), in 2005, and at University of Zaragoza (Department of Computing and Systems Engineering), in 2008.

In 2010 he left the University of Malaga to continue his professional career at the Andalusian Centre for Innovation and Information and Communication Technologies (CITIC). In this private non-profit foundation, he joins as a postdoctoral researcher, participating in several projects to contribute his knowledge in Artificial Intelligence. During his early years at CITIC, his work was also focused on the creation of the ATICS research group: application of ICT to society, recognized as TIC-224 by Junta de Andalucía. After the research group was created, he begins his work, with a work team, to organize the R&D&i activities within the CITIC Foundation, complying and being certified under the UNE 166002 and 166006 standards. His last position at the CITIC Foundation was as project coordinator, leading the work in the R&D area of CITIC. These R&D&i projects were developed in collaboration with

other Technology Centres and companies, being, as project coordinator, responsible for the execution of all projects in the Centre. Information systems, energy efficiency, big data and aeronautics were areas of the R&D activities.

In terms of teaching work, since 2013 he has been a professor of the Master in Building Automation, and has made two part-time positions as assistant professor in two departments at the University of Malaga: Electrical Engineering and Electronic Technology departments. These work was combined with his activity at CITIC.

Finally, he joined the University of Malaga as full-time assistant professor in the Department of Systems Engineering and Automation in May 2016. He is part of the Robotics and Mechatronics research group. He is also a founding member of the Reseach Institute of Mechatronics and Ciber-Physics Systems (IMECH.UMA) and the Institute for Home Automation and Energy Efficiency (IDEE). Since then, his reasearch areas are disaster robotics, autonomus driving and industry 4.0. In the disaster robotics area his contribution in the last projects of the research group was developing sensors platforms for ground vehicles for data collection during response training exercises, yielding valuable datasets publictly available, the development of deep-neural networks for RGB and thermal infrared image fusion and detection of representative events in disaster scenarios, and simultaneous localization and map building process in local and cloud edge computation for search and rescue missions.

During his professional trajectory, he has been involved in projects funded by the Spanish Government since 2003, with research activities related to robotics, machine vision and artificial intelligence in several areas such as industry, health, aerospace and robotics. He has been involved in 9 R&D projects, at regional and national level, and 18 projects related to technological transfer contracts with companies. He has actually an H-index of 9, and total times cited of 217 and 341 in Web of Science and Scopus, respectively. In the dissemination of his research activities, he has more than 20 publications in journals and book chapters, where 13 of them were papers published in high impact journals, indexed in Journal Citation Reports (JCR). On the other hand, he also has about 40 papers in conference proceedings and symposiums, and participation as scientific committee or organizer in about 10 conferences.

Part C. RELEVANT MERITS

C.1. Publications (including books)

Journal paper. Morales, Jesús; Vázquez-Martín, Ricardo; Mandow, Anthony; Morilla-Cabello, David; García-Cerezo, Alfonso. 2021. The UMA-SAR Dataset: Multimodal Data Collection from a Ground Vehicle During Outdoor Disaster Response Training Exercises. The International Journal of Robotics Research. 40 (6-7), 835-847.

Journal paper. Tapus, A; Bandera-Rubio, Antonio Jesus; Vázquez-Martín, Ricardo; Carlderita, Luis V. 2018. Perceiving the person and their interactions with the others for social robotics – A review. Pattern Recognition Letters. 118 (1). 3-13.

Journal paper. Vázquez-Martín, Ricardo; Bandera-Rubio, Antonio Jesus. 2013. Spatio-temporal feature-based keyframe detection from video shots using spectral clustering. Pattern Recognition Letters. 34: 770-779.

Journal paper. Vázquez-Martín, Ricardo; Núñez-Trujillo, Pedro Miguel; Bandera-Rubio, Antonio Jesus. 2012. LESS-mapping: Online environment segmentation based on spectral mapping. Robotics and Autonomous Systems. 60: 41-54.

Journal paper. Vázquez-Martín, Ricardo; Bandera-Rubio, Antonio Jesus. 2012. Unified framework for recognition, localization and mapping using wearable cameras. Cognitive Processing. 13: 351-354.

Journal paper. Núñez-Trujillo, Pedro Miguel; Vázquez-Martín, Ricardo; Bandera-Rubio, Antonio Jesus. 2011. Visual Odometry Based on Structural Matching of Local Invariant Features Using Stereo Camera Sensor. Sensors. 11: 7262-7284.

Journal paper. Vázquez-Martín, Ricardo; Núñez-Trujillo, Pedro Miguel; Bandera-Rubio, Antonio Jesus; Sandoval-Hernandez, Francisco. 2009. CURVATURE-BASED ENVIRONMENT DESCRIPTION FOR ROBOT NAVIGATION USING LASER RANGE SENSORS. Sensors. 9: 5894-5918.

Journal paper. Vázquez-Martín, Ricardo; Marfil-Robles, Rebeca; Núñez-Trujillo, Pedro Miguel; Bandera-Rubio, Antonio Jesus; Sandoval-Hernandez, Francisco. 2009. A NOVEL APPROACH FOR SALIENT IMAGE REGIONS DETECTION AND DESCRIPTION. Pattern Recognition Letters. 30: 1464-1476.

Journal paper. Núñez-Trujillo, Pedro Miguel; Vázquez-Martín, Ricardo; Bandera-Rubio, Antonio Jesus; Sandoval-Hernandez, Francisco. 2008. AN ALGORITHM FOR FITTING 2-D DATA ON THE CIRCLE: APPLICATIONS TO MOBILE ROBOTICS. IEEE Signal Processing Letters. 15: 127-130.

Journal paper. Núñez-Trujillo, Pedro Miguel; Vázquez-Martín, Ricardo; Bandera-Rubio, Antonio Jesus; Sandoval-Hernandez, Francisco. 2008. FAST LASER SCAN MATCHING APPROACH BASED ON ADAPTIVE CURVATURE ESTIMATION FOR MOBILE ROBOTS. Robotica. 27: 469-479.

Journal paper. Núñez-Trujillo, Pedro Miguel; Vázquez-Martín, Ricardo; Del Toro-Lasanta, José Carlos; Bandera-Rubio, Antonio Jesus; Sandoval-Hernandez, Francisco. 2008. NATURAL LANDMARK EXTRACTION FOR MOBILE ROBOT NAVIGATION BASED ON AN ADAPTIVE CURVATURE ESTIMATION. Robotics and Autonomous Systems. 56: 247-264.

C.2. Research projects and grants

Hacia equipos resilientes de manipuladoreas UGV y UAV para tareas robóticas de búsqueda y rescate. MINECO/MICIU. Referencia RTI2018-093421-B-I00. Principal Researcher: Alfonso García Cerezo. 2019-Actualidad. Participation: Researcher.

Desarrollo de técnicas de control inteligente con aprendizaje para navegación de vehículos autónomos en entornos no estructurados–DIOMEDES (Development of Intelligent cOntrol Methods using lEarning for autonomous vehicle navigation in unstructureD EnvironmentS). FEDER Andalucía 2014-2020 (Convocatoria 2018). referencia UMA18-FEDERJA-090. Principal Researcher: Juan Jesús Fernández Lozano. 2019-Actualidad. Participation: Researcher.

Arquitecturas cognitivas construidas mediante percepción multimodal en un robot social. MINECO. Principal Researcher: Bandera-Rubio, Juan Pedro (Universidad de Málaga). 2016-2018. 60742.00 EUR. Participation: Researcher.

Sistema multi-robot para cooperación con equipos de rescate de primera respuesta humanos y caninos en escenarios de catástrofe. MINECO. Principal Researcher: Mandow-Andaluz, Antonio (Universidad de Málaga). 2016-2018. 272250.00 EUR. Participation: Researcher.

COMPORTAMIENTOS Y PERCEPCION DEPENDIENTES DE LA TAREA PARA TERAPIAS DE NEURO-REHABILITACION GUIADAS POR UN ROBOT SOCIAL INTERACTIVO (III). Bandera-Rubio, Antonio Jesus (Universidad de Málaga). 2015-2015. 8.450,00 EUR. (Team member).

COMPORTAMIENTOS Y PERCEPCION DEPENDIENTES DE LA TAREA PARA TERAPIAS DE NEURO-REHABILITACION GUIADAS POR UN ROBOT SOCIAL INTERACTIVO (I). Principal Researcher: Bandera-Rubio, Antonio Jesus (Universidad de Málaga). 2013-2013. 45.131,00. Participation: Researcher.

Comportamientos y percepción dependientes de la tarea para terapias de neurorehabilitación guiadas por un robot social interactivo. MINECO. Principal Researcher: Bandera-Rubio, Antonio Jesús (Universidad de Málaga). 2013-2015. 62595.00 EUR. Participation: Researcher.

SISTEMA DE PERCEPCION VISUAL PARA INTERACCION HOMBRE-ROBOT Y NAVEGACION DE ROBOTS MOVILES (III). Principal Researcher: Bandera-Rubio, Antonio Jesus (Universidad de Málaga). 2011-2011. 46383 EUR. Participation: Researcher.

MELOMICS (OPTIMIZACIÓN DE LA RESPUESTA TERAPEUTICA A LA MODULACIÓN DE ESTÍMULOS AUDITIVOS). Principal Researcher: Vico-Vela, Francisco Jose (Universidad de Málaga). 2010-2013. 450207 EUR. Participation: Researcher.

C.3. Contracts

Evaluación de comunicaciones 5G en aplicaciones de emergencia y rescate y evaluación de la aplicación de cloud robotics mediante 5G a las operaciones de búsqueda y rescate. Company: Vodafone España, S.A.U. Period: from 10/07/2019 to 30/10/2021. Participation: Researcher.

Car Assisted with Radar and Camera Intelligent Sensors (CARCIS). Proyecto financiado por INNTERCONECTA 2018. Leader: PREMO. Period: from 30/06/2018 to 31/12/2020. Participation: Researcher.

Proyecto de desarrollo e investigación en sistemas eléctricos (ODISEO). Proyecto financiado por INNTERCONECTA 2011 / MICINN – CDTI. Liderado por AIRBUS MILITARY. Period: from 24/04/2012 to 30/03/2014. Participation: Principal Researcher.

Edificación sismorresistente, energéticamente eficiente e inteligente en su ciclo de vida (IESEI). Project funded by INNTERCONECTA 2011 / MICINN – CDTI / Leader SANDO. Period: from 22/10/2012 to 31/12/2014. Participation: Principal Researcher.

DISEÑO Y DESARROLLO DE SOLUCIONES TECNOLÓGICAS PARA LA FLOTA ARRASTRERA DE GRAN ALTURA DEL FUTURO (ARALFUTUR): FEDER INNTERCONECTA. Period: from 01/10/2013 to 30/06/2014. Participation: Principal Researcher.

SISTEMA DE MANTENIMIENTO CENTRALIZADO INALÁMBRICO RECONFIGURABLE PARA AERONAVES (CMS). Project funded by RETOS Colaboración. CITIC y AIRBUS Defence and Space. Period: from 01/09/2014 to 31/12/2016. Participation: Principal Researcher.

C.4. Patents

C.5, C.6, C.7… (e. g., Institutional responsibilities, memberships of scientific societies…)