

Juan José Gómez Rodríguez

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EDUCATION	PhD in Computer Vision. Robust Visual SLAM <i>Supervised by professor Juan D. Tardós</i> <i>Universidad de Zaragoza (U.Z.), Spain</i>	Dec 19 - Now
	MSc in Biomedical Engineering <i>Universidad de Zaragoza (U.Z.), Spain</i>	Sept 18 - Sept 19
	BSc in Informatics Engineering <i>Universidad de Zaragoza (U.Z.), Spain</i>	Sept 14 - July 18
EXPERIENCE	Assistant professor, U.Z. Assistant professor of Machine Learning and Simultaneous Localization and Mapping subjects. Co-director of bachelor's and master's thesis.	Sept 20 - Now
	Member of the Endomapper project, U.Z. Research of Deformable SLAM algorithms to build maps inside the human body, using only the video stream supplied by a standard monocular endoscope.	Dec 19 - Now
	Researcher in Computer Vision, U.Z. Research and Development of new accurate and robust SLAM algorithms combining robust feature matching, hybrid geometric-photometric mapping and Deep Learning techniques.	Dec 19 - Now
	Scholarship Researcher in Computer Vision for Master Thesis, U.Z. Research and development of a feature matching algorithm for robust visual SLAM in medical sequences based on optical flow.	Sept 18 - Sept 19
	Computer Vision/SLAM engineer intern Meta Co., San Francisco Bay Area Development of an efficient and robust multicamera SLAM system for the Meta 2 Augmented Reality headset.	July 18 - Sept 18
	Scholarship Researcher in Computer Vision for Bachelor Thesis, U.Z. Development of a SLAM algorithm based in ORB-SLAM2 that natively works with monocular and stereo FishEye cameras. Research of the benefits of the Inverse Depth point parametrization in ORB-SLAM2.	Jun 17 - July 18
TECHNICAL SKILLS	Programming : C++, Python, Matlab Languages: <ul style="list-style-type: none">• English B1 (PET) from Cambridge• Spanish: Native speaker Strong mathematical background applied to computer vision, signal processing and mathematical optimization. Knowledge and understand of the main machine learning techniques for computer vision. Strong coding background applied to multi-threaded and real time software. Knowledge and understand of advanced Data Structures and Algorithm Paradigms.	

PUBLICATIONS AND LICENSES	<p>Tracking monocular camera pose and deformation for SLAM inside the human body <i>IEEE/RSJ International Conference on Intelligent Robots and Systems (under review)</i> Juan J. Gómez Rodríguez, José M. M. Montiel and Juan D. Tardós</p> <p>Direct and Sparse Deformable Tracking <i>IEEE Robotics and Automation Letters (under review)</i> José Lamarca, Juan J. Gómez Rodríguez, Juan D. Tardós and José M. M. Montiel</p> <p>Software ORB-SLAM3 <i>Licensed</i> Carlos Campos, Richard Elvira, Juan J. Gómez Rodríguez, José M. M. Montiel, Juan D. Tardós</p> <p>SD-DefSLAM: Semi-Direct Monocular SLAM for Deformable and Intracorporeal Scenes <i>IEEE International Conference on Robotics and Automation 2021</i> Juan J. Gómez Rodríguez, José Lamarca, Javier Morlana, Juan D. Tardós and José M. M. Montiel</p> <p>ORB-SLAM3: An Accurate Open-Source Library for Visual, Visual-Inertial and Multi-Map SLAM <i>IEEE Transactions on Robotics</i> Carlos Campos, Richard Elvira, Juan J. Gómez Rodríguez, José M. M. Montiel, Juan D. Tardós</p> <p>Software ORB-SLAM2 for FishEye cameras <i>Licensed</i> Juan J. Gómez Rodríguez, J.M.M. Montiel and Juan D. Tardós</p>	<p>March 22</p> <p>Sept 21</p> <p>Jul 21</p> <p>Oct 20</p> <p>Jul 20</p> <p>Jun 18</p>
ADDITIONAL ACTIVITIES	<ul style="list-style-type: none"> • Technical Assistance for ORB-SLAM3, Voca, December 2020-June 2022 • Virtual attendance to the IEEE RAS Winter School on SLAM in Deformable Environments, July 2021 • Virtual attendance to the International Conference on Robotics and Automation 2021 (ICRA 2021), June 2021 • Advisory on Visual ORB-SLAM3, Inuitive, February 2020-February 2021 • Advise on the use of ORB-SLAM2 in robotic surgery, Deneb Medical, December 2018-June 2020 • Technical consulting services in visual and visual inertial SLAM technology, Huawei Technologies CO, Ltd, January 2018-June 2020 • Technical assistance for implementing ORB-SLAM Monocular V1.0, Meta Co., January 2018-July 2018 	