## Carlos Campos Martínez

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**EDUCATION** 

## PhD in Computer Vision. Visual-Inertial SLAM

Nov 17 - Now

Supervised by professor Juan D. Tardos Universidad de Zaragoza (U.Z.), Spain

## MSc in Electronics and Signal Processing

Sept 15 - Sept 17

ENSEEIHT, Institut National Polytechnique, Toulouse, France

## MSc in Industrial Engineering

Sept 14 - Dec 16

Universidad de Zaragoza (U.Z.), Spain

## BSc in Industrial Engineering

Sept 10 - Sept 14

Universidad de Zaragoza (U.Z.), Spain

#### **EXPERIENCE**

#### Researcher in Computer Vision, U.Z.

Jan 18 - Now

Research and Development of new initialization methods for visual-inertial SLAM. Development of ORB-SLAM3, a multi-sensor and multi-map SLAM system, for AR-VR applications based on features and non-linear optimization. Theoretical research, software development and hardware verification on real cases

#### Internship, BSH and U.Z.

July 16 - Aug 16 and Mar 17 - Sept 17

Development of new control techniques for iterative electromechanical devices, based on Bayesian Optimization, Pattern-Search and simplex methods. Microcontroller programming and test on real devices

#### Scholarship sponsored by BSH for Bachelor Thesis

May 14 - Sept 14

Study of new capacitive sensors for pot detection in induction appliances, using Finite Element Method. Microcontroller programming.

#### **TECHNICAL SKILLS**

**Programming:** C++, Python, Matlab

Electronics: Microcontrollers (C++), FPGA (VHDL)

Languages:

• English C1 (advanced) from Cambridge and TOEIC

• French: B2 (upper intermediate) from DELF

• Spanish: Native speaker

Strong mathematical background applied to computer vision, signal processing and control engineering. Knowledge and understand of main machine learning techniques for computer vision.

## AND LICENSES

## PUBLICATIONS ORB-SLAM3: An Accurate Open-Source Library for Visual, Visual-Inertial and Multi-Map SLAM

Jul 20

ArXiv preprint

Carlos Campos, Richard Elvira, Juan J. Gómez Rodríguez, José M. M. Montiel, Juan D. Tardós

## Inertial-Only Optimization for Visual-Inertial Initialization

May 20

International Conference on Robotics and Automation (ICRA), 2020 Carlos Campos, J.M.M. Montiel and Juan D. Tardós

#### Software ORB-SLAM Stereo-Inertial

Nov 19

Licensed

Carlos Campos, Richard Elvira, J.M.M. Montiel and Juan D. Tardós

#### Fast and Robust Initialization for Visual-Inertial SLAM

CRA), 2019

**May 19** 

International Conference on Robotics and Automation (ICRA), 2019 Carlos Campos, J.M.M. Montiel and Juan D. Tardós

# ADDITIONAL ACTIVITIES

- $\bullet$  Assistant teacher for Computer Vision practical classes at Universidad de Zaragoza, February 2020-May 2020
- Technical assistance for ORB-SLAM Visual-Inertial, Oppo Mobile Telecommunications Corp. Ltd., February 2019-February 2020
- Technical assistance for ORB-SLAM2, Voca AS, January 2019-January 2020
- $\bullet$  Technical consulting services in visual and visual-inertial SLAM technology, Huawei Technologies CO, Ltd. , June 2018-June 2020
- $\bullet$  Erasmus exchange at INP Toulouse, France, September 2015 June 2016 (Awarded with grant from regional bank Ibercaja)
- Erasmus exchange at Université de Pau, France, September 2013 February 2014 (Awarded with grant from regional bank *Ibercaja*)
- Fourth classified at the Regional Mathematical Olympiad 2010 (http://ttm.unizar.es/olimpiada/ganadores.html#2010)