

CONTACT

INFORMATION

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London, United Kingdom
Nationality: Spanish

RESEARCH
INTERESTS

Computer Vision: Color Constancy, Computational Photography, Stixel World and 3D Reconstruction.
Robotics: Autonomous Driving.
HPC: Parallel Computing, CUDA, GPGPU and Real-time Algorithms.

PROFESSIONAL
EXPERIENCE

Research Engineer **March 2019-February 2020**
Computer Vision group at Huawei Noah's Ark lab, London, United Kingdom
• Working on Color Constancy (Auto White Balance).
PhD Internship **June 2018-December 2018**
Computer Vision group at Element AI, Montreal, Canada
• Working on Deep learning and Computer Vision.
• Advisor: [Dr. David Vazquez](#)
PhD Internship **January 2017-July 2017**
Dept. of Environment Perception at Daimler AG, Stuttgart, Germany
• Scholarship: SEBAP mobility - Internship Grant
• Objective: To develop a faster and more accurate version of the Stixel World algorithm trying to get rid of some model assumptions.
• Advisor: [Dr. Uwe Franke](#)
Assistant Professor **2015-2018**
Computer Architecture and Operating Systems (UAB department), **Universitat Autònoma de Barcelona**, Spain
• Subjects: Fundamentals of Computer Science, Distributed Systems

EDUCATION

PhD in Computer Vision **2015-Currently**
[Universitat Autònoma de Barcelona](#), Spain
• Thesis title: Embedded 3D Reconstruction for Autonomous Driving
• Advisors: [Dr. Juan Carlos Moure](#) and [Dr. David Vázquez](#)
• Area of Study: Computer Vision and High Performance Computing
• Scholarship: PIF Autonomous University grant
MSc in Computer Vision **2015**
[Universitat Autònoma de Barcelona](#), Spain
• Dissertation title: A comparison of perceptual image quality metrics
Bachelor of Computer Science **2014**
[Universitat Autònoma de Barcelona](#), Spain
• Dissertation title: A metric to measure the difference between images

PUBLICATIONS

Journal Papers

Self-Supervised Depth Completion for Active Stereo 2022

F. Warburg, D. Hernandez-Juarez, J. J. Tarrio, A. Vakhitov, U. Bonde, & P. F. Alcantarilla

In *IEEE Robotics and Automation Letters* (2022) (**RA-L**)

3D Perception with Slanted Stixels on GPU 2021

D. Hernandez-Juarez, A. Espinosa, D. Vázquez, A. M. López, & J. C. Moure

In *IEEE Transactions on Parallel and Distributed Systems* (2021) (**TPDS**)

Slanted Stixels: A way to represent steep streets 2019

D. Hernandez-Juarez^{*†}, L. Schneider^{*}, P. Cebrian, A. Espinosa, D. Vázquez, A. M. López, U. Franke, M. Pollefeys, & J. C. Moure

In *International Journal of Computer Vision* (2019) (**IJCV**)

^{*} Both authors contributed equally

[†] Work performed during an internship at Daimler AG

Conference Papers

A Multi-Hypothesis Approach to Color Constancy 2020

D. Hernandez-Juarez, S. Parisot, B. Busam, A. Leonardis, G. Slabaugh, & S. McDonagh

In *Computer Vision and Pattern Recognition 2020* (**CVPR2020**)

Slanted Stixels: Representing San Francisco's Steepest Streets 2017

D. Hernandez-Juarez^{*†}, L. Schneider^{*}, A. Espinosa, D. Vázquez, A. M. López, U. Franke, M. Pollefeys, & J. C. Moure

In *British Machine Vision Conference 2017* (**BMVC2017**)

Awarded as **Best Industry Paper**

^{*} Both authors contributed equally

[†] Work performed during an internship at Daimler AG

GPU-accelerated real-time stixel computation 2017

D. Hernandez-Juarez, J. C. Moure, A. Espinosa, D. Vázquez, & A. M. López

In *Winter Conference on Applications of Computer Vision 2017* (**WACV2017**)

Embedded real-time stereo estimation via Semi-Global Matching on the GPU 2016

D. Hernandez-Juarez, A. Chacón, A. Espinosa, D. Vázquez, J. C. Moure, & A. M. López

In *International Conference on Computational Science 2016* (**ICCS2016**)

TECHNICAL SKILLS **Programming:** C/C++, Assembler, Matlab, Python, .NET, Java, SQL

Libraries: *Vision* (OpenCV, VTK, VLFeat), *Deep Learning* (PyTorch, Caffe), *HPC* (CUDA, SIMD, Intel intrinsics, OpenMP)

Others: L^AT_EX, MS Office

LANGUAGES

Spanish: Native Language

English: Fluent proficiency

Catalan: Native Language

AWARDS

Best Industrial Paper Award - BMVC

2017

FELLOWSHIP

PIF-UAB - Doctoral fellowship

2015-2018

SEBAP Mobility - Internship fellowship

2017