

CONTACT

INFORMATION

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London, United Kingdom  
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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** **February 2019-Currently**  
**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

#### **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

#### **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<sup>A</sup>T<sub>E</sub>X, 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