# Daniel Hernández Juárez

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**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**                                **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**

**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**: LaTeX, 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**