Laura **Leal-Taixé**

Senior Postdoctoral Researcher

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Work Experience

Research Group Leader — *08/2017 - present*

Technical University of Munich — *Munich, Germany*

- Topics: deep learning, semantic image understanding, video analysis, multiple object tracking

Senior Postdoctoral Researcher — *05/2016 - 07/2017*

Technical University of Munich — *Munich, Germany*

- Topics: deep learning, semantic image understanding, video analysis, multiple object tracking

Postdoctoral Researcher — *01/2014 - 02/2016*

ETH Zürich — *Zurich, Switzerland*

- Topics: multi-target tracking and segmentation, video segmentation, pose estimation

Research assistant — *01/2009 - 12/2013*

Leibniz University Hannover — *Hannover, Germany*

- Topics: multi-view multi-target tracking, motion models for tracking, biology image analysis, matching for medical motion capture

Academic Background

Ph.D. in Computer Vision — *01/2009 - 12/2013*

Leibniz University Hannover — *Hannover, Germany*

- Thesis: “Multiple object tracking with context awareness”

Visiting researcher — *01/2012 - 11/2012*

University of Michigan — *Ann Arbor, Michigan, USA*

- Learning an image-based motion context for pedestrian tracking.

Master Thesis exchange student — *09/2007 - 07/2008*

Northeastern University — *Boston, Massachusetts, USA*

- Courses: computer vision, advanced signal processing. Scholarship from the Vodafone Foundation.

B. Sc. and M. Sc. in Telecommunications Engineering — *2002 - 2008*

Technical University of Catalonia (UPC) — *Barcelona, Catalonia*

- Major: image and speech processing, signal processing, communications

Teaching

Deep Learning for Computer Vision — *SS 2017, WS 2017*

Technical University of Munich

- Theoretical introduction to Deep Learning: basics of machine learning, CNN, LSTM, working with TensorFlow.

Hands-on Deep Learning for Computer Vision — *WS 2016*

Technical University of Munich

- Projects using Deep Learning for various Computer Vision and Medical Imaging tasks.

Photogrammetry and 3D Vision Laboratory — *WS 2014, WS 2015*

ETH Zürich

- Topics: Panorama stitching, feature extraction, feature matching, multi-view- reconstruction, structure-from-motion.

Matlab for medical and industrial image interpretation — *WS 2010, WS 2011, WS 2012*

Leibniz University Hannover

- Topics: Optical flow, shape context, edge detection, Hough transform, Kalman filter. Organizer of the cell detection challenge.

Matching and tracking — *SS 2010*

Leibniz University Hannover

- Topics: Optical flow, histogram of oriented gradients, object recognition, SIFT features, tracking.

Projects

Tracking and motion classification of microorganisms

2009 - 2013

Leibniz University Hannover and Karlsruhe Institute of Technology

German Research Foundation project aimed at constructing materials to protect underwater equipment from biofouling. I derived methods for tracking and motion classification of algae and co-authored the report to apply for a 1-year extension, which was successfully obtained.

Matching markers across views for medical motion capture

2010

Leibniz University Hannover and SIMI

Industrial project in collaboration with the company SIMI, which dealt with body motion capture of medical patients using markers. I provided a tool to automatically match the detected markers in multiple camera views as well as in time.

Benchmarking multi-target tracking

2014 - Present

ETH Zürich and University of Adelaide

Project to establish a public benchmark for pedestrian tracking, with a fixed training and test set, ground truth and evaluation metrics. The benchmark launched in 2014 and can be found at https://motchallenge.net. Funding from Daimler was obtained to organize the workshops.

Scientific Profile

Citations	Google scholar citations: 782 (02/11/2017), h-index: 15, i10-index: 18.
Area Chair	GCPR 2016, WACV 2017, GCPR 2017, ECCV 2018
Reviewer	Reviewer of the major conferences (CVPR, ICCV, ECCV, BMVC) and journals (IJCV, TPAMI, CVIU) in Computer Vision.
Editor	LNCS Post-Proceedings. 15th Dagstuhl Workshop on Theoretic Foundations of Computer Vision.

Organizer

2017	**Dagstuhl Seminar,** Deep Learning for Computer Vision	*Germany*
2017	**Joint BMTT and PETS Workshop: Tracking and Surveillance Challenges,** in conjunction with CVPR 2017	*Hawaii, USA*
2016	**2nd Workshop on Benchmarking Multi-Target Tracking (BMTT),** in conjunction with ECCV 2016.	*Amsterdam, NL*
2015	**Dagstuhl Seminar,** Holistic Scene Understanding	*Germany*
2015	**1st Workshop on Benchmarking Multi-Target Tracking (BMTT),** in conjunction with WACV 2015.	*Hawaii, USA*

Awards and Funding

2017	**Winner,** Sofja Kovalevskaja Award by the Humboldt Foundation. €1.65 million for 5 years.	*Munich, Germany*
2017	**Granted,** DAAD Funding, Australia-German Joint Research Cooperation Scheme.	*Munich, Germany*
2016	**Travel grant,** awarded by the Women in Computer Vision Association at CVPR 2016.	*Las Vegas, USA*
2013	**Winner,** selected to Participate at the Doctoral Consortium of CVPR 2013. Award to cover travel expenses.	*Portland, USA*
2008	**Winner,** Vodafone scholarship to pursue the Master Thesis in the United Stated.	*Boston, USA*
2002	**Winner,** Premi extraordinari de Batxillerat. Awarded to the best high school students in Spain.	*Barcelona, Spain*
2002	**Winner,** Matrícula d'Honor de Batxillerat. Graduated with honors from high school.	*Barcelona, Spain*

Languages

Catalan	Mothertongue
Spanish	Mothertongue
English	Proficient (C2). Certificates: Cambridge English Proficiency (CPE) and TOEFL iBT score 119 /120.
German	Intermediate (B2)
Italian	Proficient (C2)

References

Prof. Dr.-Ing. Bodo Rosenhahn — *Leibniz Univ. Hannover, Germany*

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Prof. Dr. Konrad Schindler — *ETH Zurich, Switzerland*

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Prof. Silvio Savarese — *Stanford University, USA*

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Prof. Dr. Ian Reid — *University of Adelaide, Australia*

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