



Dorian Gálvez-López

Senior Computer Vision Researcher

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 Full version

Personal Profile

Postdoctoral researcher in the field of computer vision and mobile robotics. Mainly interested in real-time object recognition for augmented reality, fast place recognition for mobile robotics and software development.

Education

PhD Studies

September 2009 - March 2013
Centro Politécnico Superior, University of Zaragoza, Spain.
PhD on Robotics and Computer Vision: Place and object recognition for real-time visual mapping.

Master's Thesis

September 2008 - September 2009
Centro Politécnico Superior, University of Zaragoza, Spain.
Master's Thesis in Computer Vision: Unsupervised object learning with stereo vision for scene recognition.

MSc. in Computer Science

September 2002 - August 2007
Centro Politécnico Superior, University of Zaragoza, Spain.
Master's Thesis in Robotics: Combining object recognition and metric mapping for spatial modeling with mobile robots.

Scholarships

Pre-doctoral scholarships

March 2009 - February 2013
Ministerio de Educación and Diputación General de Aragón, Spain: FPU-AP2008-02272, DGA-2008-B013/09.
Centro Politécnico Superior, University of Zaragoza, Spain.

Research grant

October 2008 - February 2009
Sixth Framework Programme, European Commission: FP6-2005-IST-6-RAWSEEDS.
Centro Politécnico Superior, University of Zaragoza, Spain.

Research grant

September 2007 - July 2008
Sixth Framework Programme, European Commission: FP6-2002-IST-2.
Centre for Autonomous Systems, KTH Royal Institute of Technology, Stockholm, Sweden.

Master's thesis grant

March 2007 - August 2007
The Swedish Foundation for International Cooperation in Research and Higher Education (STINT).
Centre for Autonomous Systems, KTH Royal Institute of Technology, Stockholm, Sweden.

Work Experience

Senior Computer Vision Researcher

May 2015 - Present
Paracosm, Gainesville FL, USA.
R&D in SLAM localization and 3D reconstruction of complex scenarios.

Postdoctoral Research on Robotics and Computer Vision

February 2014 - January 2015
Autonomous Robotics & Perception Group, George Washington University, Washington DC, USA.
Research in large scale robot localization and cooperative SLAM.

Postdoctoral Research on Robotics and Computer Vision

March 2013 - January 2014
Centro Politécnico Superior, University of Zaragoza, Spain.
Research in European and Spanish projects: RoboEarth, HLSSLAM
Topics: object recognition for visual SLAM.

Research on Robotics and Computer Vision

September 2007 - June 2008
Internship in the Centre for Autonomous Systems, KTH Royal Institute of Technology, Stockholm, Sweden.
Research in a European project: Cognitive Systems for Cognitive Assistants.
Topics: visual object recognition and spatial modeling applied to service robots.

Software development

2001 – 2008
Several internships in computer and electronics companies, Zaragoza, Spain.

Key Skills

C, C++, C++11	OpenCV	ROS	GNU/Linux
Matlab	OpenGL	Player/Stage	OS X
Python	PCL	CMake	Windows

Research Projects

Development of Large-Scale Dense Scene Capture and Tracking Instrument

September 2014 - January 2015
National Science Foundation - Major Research Instrumentation Program, USA.
Autonomous Robotics & Perception Group, University of Colorado Boulder, USA.

HLSSLAM

January 2013 - January 2014
Ministerio de Educación, Cultura y Deporte, Spain, DPI2012-36070.
Centro Politécnico Superior, University of Zaragoza, Spain.

RoboEarth

December 2009 - December 2013
Seventh Framework Programme, European Commission, FP7-2009-248942.
Centro Politécnico Superior, University of Zaragoza, Spain.

Rawseeds

October 2008 - October 2009
Sixth Framework Programme, European Commission, FP6-2005-IST-6-RAWSEEDS.
Centro Politécnico Superior, University of Zaragoza, Spain.

nSPLAM

July 2010 - December 2012
Ministerio de Educación, Spain, DPI2009-13710.
Centro Politécnico Superior, University of Zaragoza, Spain.

SLAM6DOF

October 2008 - September 2009
Ministerio de Educación, Spain, DPI2006-13578.
Centro Politécnico Superior, University of Zaragoza, Spain.

Cognitive Systems for Cognitive Assistants

March 2007 - July 2008
Sixth Framework Programme, European Commission, FP6-2002-IST-2.
Centre for Autonomous Systems, KTH Royal Institute of Technology, Stockholm, Sweden.

Research Stays

Autonomous Robotics & Perception Group (ARPG)

September 2014 - December 2014
University of Colorado Boulder, USA.

Computer Vision Laboratory (CVLab)

November 2011 - February 2012
École Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland.

Centre for Autonomous Systems (CAS)

March 2007 - August 2007
KTH Royal Institute of Technology, Stockholm, Sweden.

References

Gabe Sibley, Assistant Professor, University of Colorado Boulder, USA.

Patric Jensfelt, Professor, KTH Royal Institute of Technology, Stockholm, Sweden.

José María Martínez Montiel, Professor, University of Zaragoza, Spain.

José Neira, Professor, University of Zaragoza, Spain.

Juan D. Tardós, Professor, University of Zaragoza, Spain.

Selected Publications

Real-time Monocular Object SLAM. Dorian Gálvez-López, Marta Salas, Juan D. Tardós, J.M.M. Montiel. *Robotics and Autonomous Systems (RAS)*, September 2015 (to appear). [PDF](#).

Environment Selection And Hierarchical Place Recognition. M. Mohan, D. Gálvez-López, C. Monteleoni and G. Sibley. *IEEE International Conference on Robotics and Automation (ICRA)*, Pages 5487-5494, May 2015. [PDF](#).

RoboEarth Semantic Mapping: A Cloud Enabled Knowledge-Based Approach. L. Riazuelo, M. Tenorth, D. Di Marco, M. Salas, D. Gálvez-López, L. Mösenlechner, L. Kunze, M. Beetz, J.D. Tardós, L. Montano, and J. M. M. Montiel. *IEEE Transactions on Automation Science and Engineering*, Volume PP, Number 99, Pages 1-12, 2015. [PDF](#).

MOARSLAM: Multiple Operator Augmented RSLAM. J. Morrison, D. Gálvez-López, and G. Sibley. *International Symposium on Distributed Autonomous Robotic Systems (DARS)*, November 2014. [PDF](#).

Bags of binary words for fast place recognition in image sequences. D. Gálvez-López and J. D. Tardós. *IEEE Transactions on Robotics (T-RO)*, 28(5):1188–1197, October 2012. [PDF](#). [Video 1](#). [Video 2](#).

Robust place recognition with stereo sequences. C. Cadena, D. Gálvez-López, J. D. Tardós, and J. Neira. *IEEE Transactions on Robotics (T-RO)*, 28(4):871–885, August 2012. [PDF](#).

Roboearth. M. Waibel, M. Beetz, J. Civera, R. D'Andrea, J. Elfving, D. Gálvez-López, K. Haussermann, R. Janssen, J.M.M. Montiel, A. Perzylo, B. Schiessle, M. Tenorth, O. Zweigle, and R. van de Molengraft. *IEEE Robotics Automation Magazine (RAM)*, 18(2):69–82, June 2011. [PDF](#).

Real-time loop detection with bags of binary words. D. Gálvez-López and J. D. Tardós. *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, pages 51–58, September 2011. [PDF](#).

Towards semantic SLAM using a monocular camera. J. Civera, D. Gálvez-López, L. Riazuelo, J. D. Tardós, and J. M. M. Montiel. *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, pages 1277–1284, September 2011. [PDF](#). [Video 1](#). [Video 2](#).

Adaptive appearance based loop-closing in heterogeneous environments. A. Majdik, D. Gálvez-López, G. Lazea, and J. A. Castellanos. *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, pages 1256–1263, September 2011. [PDF](#).

CI-Graph SLAM for 3D Reconstruction of Large and Complex Environments using a Multicamera System. P. Piniés, L. M. Paz, D. Gálvez-López, and J.D. Tardós. *International Journal of Field Robotics (IJFR)*, 27(5):561–586, September/October 2010. [PDF](#).

Hybrid laser and vision based object search and localization. D. Gálvez-López, K. Sjöo, C. Paul, and P. Jensfelt. *IEEE International Conference on Robotics and Automation (ICRA)*, 2008. [PDF](#).