

Joan Massich

Research fellow

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Born 15 March 1984



This is how I did it Anton. I never saved anything for the swim back. (Gattaca, 1997)

Experience

Dec. 2013

Postdoctoral fellow, *Le2i - Laboratoire Electronique, Informatique et Image UMR CNRS 6306 at IUT Le Creusot*, Le Creusot

Oct. 2009 – Dec. 2013

Research assistant, *ViCOROB - Computer Vision and Robotics group at University of Girona*, Girona

June 2009 – Oct. 2009

Research assistant, *Applied Vision Laboratory (AVL) at Texas Tech University (TTU)*, Lubbock

Dec. 2003 – June 2009

Research assistant, *ViCOROB - Computer Vision and Robotics group at University of Girona*, Girona

Education

Oct. 2009 – Dec. 2013

PhD on Computer Vision

Universitat de Girona, Girona, Catalonia.

Université de Bourgogne, Le Creusot, France. title: Deformable object segmentation in ultrasound images.

grade: Unanimity excellent with honors.

Sept. 2007 – June 2009

Erasmus Mundus Master Course on Computer Vision and Robotics (VIBOT)

Heriot-Watt University, Edinburgh, Scotland.

Universitat de Girona, Girona, Catalonia.

Université de Bourgogne, Le Creusot, France.

Autonomous Robots, Fundamentals on Robotics, Visual Perception, Real-time Image Processing, Scene Segmentation and Interpretation, Software Engineering, Image processing, Digital Signal Processing, Data Mining and Machine Learning, Medical Imaging, Shape Recognition Statistics, Infrared Imagery, Image Analysis.

grade: 8.1 over 10

Sept. 2005 – Sept. 2007

Computer Science Engineering,

Universitat de Girona, Girona, Catalonia

Software Engineering, Computer Networks, Compilers, Computer Architecture, Numeric Methods, Economy, Production Systems, Computer Vision, Statistics, User Interfaces, Security.

grade: 7.7 over 10

Sept. 2002 – Sept. 2005

Technical Engineering in Computer Systems,

Universitat de Girona, Girona, Catalonia

Algorithms, Computer Architecture, Electronics, Digital Circuits, Database Systems, Computer Vision, Robotics, Software Engineering, Computer Networks, Operating Systems, Discrete Structures, Probability and Statistics, Digital Logic, Control Systems, VLSI Design, Artificial Intelligence.

grade: 6.9 over 10

PhD Thesis

- title *Deformable object segmentation in ultra-sound images.*
- supervisors Joan Martí and Prof. Fabrice Meriaudeau
- description This thesis is devoted to automatic segmentation of breast lesions in ultrasound images, since this task is key for the development of robust Computer Aided Diagnosis (CAD) systems applied to this organ and image modality. The proposed segmentation strategy divides the images into meaningful regions called super-pixels and labels them using a minimization framework that takes into account training and regularization.

Languages

- Catalan **IRL 5** *Mother tongue.*
- Spanish **IRL 5**
- English **IRL 4-5**
- French **IRL 3-4**

Publications

Medical Image Analysis

2015

• **Lemaitre, Guillaume, Joan Massich, Robert Martí, Jordi Freixenet, J.C. Vilanova, P.M. Walker, Desire Sidibe, and Fabrice Meriaudeau**, "A Boosting Approach for Prostate Cancer Detection using Multi-parametric MRI". *English*. In:

2015

• **Massich, Joan, Guillaume Lemaitre, Fabrice Meriaudeau, and Joan Martí**, "Breast Ultra-Sound Image Segmentation: an Optimization approach based on super-pixels and high-level descriptors". *English*. In:

2014

• **Massich, Joan, Fabrice Meriaudeau, Melcior Sentís, Sergi Ganau, Elsa Pérez, Domenec Puig, Robert Martí, Arnau Oliver, and Joan Martí**, "SIFT Texture Description for Understanding Breast Ultrasound Images". *English*. In: *Lecture Notes in Computer Science* vol. 8539. Ed. by Hiroshi Fujita, Takeshi Hara, and Chisako Muramatsu, pp. 681–688.

2013

• **Massich, Joan**, "Deformable object segmentation in ultra-sound images". *PhD thesis*. Girona (Catalunya): Universitat de Girona, Université de Bourgogne.

2012

• **Massich, Joan, Fabrice Meriaudeau, Melció Santís, Sergi Ganau, Elsa Pérez, Robert Martí, Arnau Oliver, and Joan Martí**, "Automatic seed placement for breast lesion segmentation on US images". *English*. In: *Lecture Notes in Computer Science* vol. 7361. Ed. by Andrew D. A. Maidment, Predrag R. Bakic, and Sara Gavenonis, pp. 308–315.

2011

• **Martí, Joan, Gubern-Mérida, Joan Massich, Arnau Oliver, Joan C. Vilanova, Josep Comet, Elsa Pérez, Arzoz M, and Robert Martí**, "Ultrasound Image Analysis. Methods and Applications." In: *Recent advances in biomedical signal processing*. Ed. by Juan Manuel Górriz, Elmar W Lang, and Javier Ramírez. Bentham Science Publishers, pp. 216–230.

2011

Massich, Joan, Fabrice Meriaudeau, Elsa Pérez, Robert Martí, Arnau Oliver, and Joan Martí, "Seed selection criteria for breast lesion segmentation in ultra-sound images". In: Proc. MICCAI 2011 Workshop on Breast Image Analysis. Ed. by Christine Tanner, Julia Schnabel, Nico Karssenmeijer, Mads Nielsen, Maryellen Giger, and Dawid Hawkes, pp. 57–64.

2010

Massich, Joan, Fabrice Meriaudeau, Elsa Pérez, Robert Martí, Arnau Oliver, and Joan Martí, "Lesion Segmentation in Breast Sonography". English. In: *Lecture Notes in Computer Science* vol. 6136. Ed. by Joan Martí, Arnau Oliver, Jordi Freixenet, and Robert Martí, pp. 39–45.

Other Publications in Computer Vision and Robotics

2015

Lemaitre, Guillaume, A. Bikfalvi, J. Llach, Joan Massich, and F. Julian, "Business Model Design for University Technology Valorisation". English. In:

2009

Falcao, Gabriel, Natalia Hurtos, Joan Massich, and David Fofi, Projector-camera calibration toolbox. *Comp. software. Le2i UMR CNRS 6306 - IUT Le Creusot, France*. URL: <http://code.google.com/p/procamcalib>

2008

Falcao, Gabriel, Natalia Hurtos, and Joan Massich, Plane-based calibration of a projector-camera system. *Research rep. Le Creusot, France: Shape Recognition Statistics course (EMMc VIBOT)*.

2006

Hernández, Emili, Pere Ridao, Marc Carreras, David Ribas, Narcís Palomeras, Andrés El-fakdi, François Chung, Xavier Ribas, Guillermo García de Marina, Natalia Hurtós, Joan Massich, Antonio Almohaya, and Josep Vila, "ICTINEU AUV, un Robot per a Competir". Catalan. In: Artificial Intelligence Research and Development, Proceedings of the 9th International Conference of the ACIA, CCIA 2006. Ed. by Monique Polit, Thierry Talbert, Beatriz López, and Joaquín Meléndez.

2006

Ribas, David, Narcís Palomeras, Xavier Ribas, Guillermo García de Marina, Emili Hernández, François Chung, Natalia Hurtós, Joan Massich, Antonio Almohaya, Josep Vila, and Andrés El-fakdi, ICTINEU AUV Takes the Challenge. *Research rep. Universitat de Girona Girona, Catalonia*

Education

2014

Ligusova, Jana, Nina Bencheva, Jean-Marc Thiriet, Gert Jervan, and Massich Joan, "Reflections about the integration of global challenges into higher education future programs: application in the field of ICT security". In: Proceedings of ITHET 2014. 13th International Conference on Information Technology Based Higher Education and Training.

2012

Cufí, Xevi, Miquel Villanueva, Andrés ElFakdi, Joan Massich, and Rafael Garcia, "Team-based Building of a Remotely Operated Robot as a Method to Increase the Interest for Engineering among Secondary School Students". In: Proceedings of EDULEARN 2012. 4th International Conference on Education and New Learning Technologies.

2011

Villanueva, Miquel, Xevi Cufí, Andrés EIFakdi, Joan Massich, and Rafael Garcia,
"Attracting talent to increase interest for engineering among secondary school students".
In: Global Engineering Education Conference (EDUCON), 2011 IEEE, pp. 347–353.

Awards

Aug. 2006

Member of the ViCOROB-UDG team honored as the winner of the 2006 SAUC-E (Student Autonomous Underwater Challenge Europe) competition, London