

Olivier D'Hondt

Remote Sensing and Image Processing Engineer

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📄 odhondt.github.io

Education

- 2006 **PhD in Signal Processing**, *University of Rennes 1, France.*
- 2002 **Master's Degree in Electrical Engineering, majoring in Image Processing**, *University of Rennes 1, France.*
- 2000 **Bachelor's Degree in Electrical Engineering**, *University of Rennes 1, France.*
- 1998 **DEUG Sciences de la Matière (two-year university degree in Physics)**, *University of Rennes 1, France.*

Experience

- Jan. 2022 – **Senior SAR (Synthetic Aperture Radar) Scientist**, *Floodbase, USA (remote).*
- Sep. 2023
 - Development of flood mapping algorithms from high-resolution SAR imagery.
 - Leading radar science for public and commercial sensors.
 - Developing algorithms for new radar satellites and evaluating the radar satellite market.
 - Contributing to urban flood mapping.
- Jul. 2018 – **Research associate**, *Computer Vision & Remote Sensing Group, Technical University of Berlin, Germany.*
- Aug. 2021
 - Principal Investigator of the “TomoSAR II” project funded by DFG (German Research Foundation).
 - Deep-learning based extraction and reconstruction of 3-D objects in tomographic SAR (Synthetic Aperture RADAR) data
 - Participation in the development of the MOUNTS platform to automatically monitor volcano activity with Sentinel data (ESA)
- Mar. 2015 – **Research associate**, *Computer Vision & Remote Sensing Group, Technical University of Berlin, Germany.*
- Jun. 2018
 - Principal Investigator of the “TomoSAR” project funded by DFG (German Research Foundation).
 - Machine learning based land cover classification from 3-D tomographic information
 - Restoration of 3-D point clouds from tomographic SAR images
 - Participation in the geomorphological characterization of regions in Fildes peninsula, Antarctica (SOAR-EU2 project)
- Sept. 2011 – **Research associate**, *Computer Vision & Remote Sensing Group, Technical University of Berlin, Germany.*
- Aug. 2014
 - Participation in the “AnalySAR II” project funded by DFG (German Research Foundation).
 - Fusion of polarimetric and tomographic SAR information for 3-D segmentation
 - Bilateral filtering of speckle in polarimetric SAR images
- Nov. 2007 – **Research engineer**, *Barcelona Media Innovation & Research Center, Barcelona, Spain.*
- Dec. 2010
 - Participation in the “i3media” project funded by the CENIT program (2007-2010).
 - Interactive segmentation and object tracking in video
 - Motion layer extraction in video
 - “Alpha-matting” for object insertion in video

- Mar. 2006 – **Postdoctoral researcher**, *Active Remote Sensing Lab, Polytechnic University of Catalonia*,
 Aug. 2007 Barcelona, Spain.
 Participation in a CPER project with IFREMER and Géosciences Rennes.
 ◦ Validation of a nonstationary texture model for SONAR and SAR images
- Sept. 2002 – **PhD candidate**, *Institute of Electronics and Telecommunication of Rennes, University of*
 Feb. 2007 *Rennes 1, France*.
 Topic: modelling nonstationary texture in SAR images.
 ◦ Introduction of a new statistical model for spatially anisotropic texture
 ◦ Development of numerical model inversion methods
- Mar. 2002 – **Master intern**, *Institute of Electronics and Telecommunication of Rennes, University of*
 Aug. 2002 *Rennes 1, France*.
 Topic: Unsupervised classification of polarimetric SAR images based on Markov random fields.

Skills

Computer

Programming	C/C++, Python, Matlab		
Libraries	Python: <i>Numpy, Tensorflow, Scikit-learn, Pandas, GDAL, Cython</i> ; C++: <i>STL, Eigen, CImg</i>		
Operating systems	Linux, MacOS, Windows	Tools	GIT, Jupyter notebook, QGIS

Languages

French	Native	English	Fluent
Spanish	Fluent	German	Basic

Scientific activities

Student Supervision

- Master's theses ◦ Classification of tomographic SAR data
 ◦ Riemannian distance based nonlocal filtering

Invited lectures

- Jan. 2020 ENS Paris Saclay – 3-D reconstruction from tomographic SAR data: From low- to high-level information processing
- Sept. 2019 University of Rennes I – Information processing for 3-D characterization using Synthetic Aperture Radar tomography

Prizes & distinctions

- 2014 Mining of Massive Datasets, online course of Stanford University (USA). Grade: "Statement of Accomplishment with Distinction"
- 2008 Torres Quevedo Fellowship from the Spanish Ministry of Education and Science
- 2004 Student prize for a paper at the EUSAR 2004 symposium

Hobbies

Drums, computer music, photography, open-source software, running

Publications

A complete list is available on my website <https://odhondt.github.io>