



Gerard Sanroma

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Technical and Personal skills

- **Science & Tech:** At home with Machine Learning and Computer Vision | Attentive to all steps of Data Science pipeline: acquisition, curation, modelling, validation and visualization | Fluent with different types of data: images, biological and video
- **Leadership:** Organization of the MRI group in the Rhineland Study | Supervision of 2 Ph.D students | Organizer of the Patch-MI Workshop at MICCAI 2017 and 2018
- **Communication & teamwork:** Inter-disciplinary collaboration with epidemiologists, clinicians, imaging physicists and IT-experts | Deliver regular presentations both at job and conferences | Flexibility and adaptability by having worked & lived in 5 different countries | Active in Twitter, Linkedin and Github
- **Software:** Python, Matlab, R, C, C++, Linux Bash, L^AT_EX, Scikit-learn, Numpy, Theano, Pandas, Git

Professional Experience

- **German Center for Neurodegenerative Diseases** **Bonn (Germany)**
Senior Research Fellow 2017–Present
 - Organize the MRI group in the Rhineland Study | Oversee all the steps in the MRI flow: acquisition, data management, computational resources and image processing / analysis | Inter-disciplinary collaboration with imaging physicists, epidemiologists, IT-experts and image analysis experts
 - Develop machine learning techniques to find associations between multi-modal brain MRI and neurodegenerative risk factors in the general population | Develop a Deep Learning pipeline for automatic detection of brain lesions
- **Universitat Pompeu Fabra** **Barcelona (Spain)**
Marie Curie Fellow 2015–2017
 - Develop general brain MRI analysis methods for different age groups
 - Clinical collaborations with 1) the Fetal Medicine Research Center to study fetal neurodevelopment and 2) the Alfa study to study early neurodegeneration in middle-aged individuals
 - Supervise the Ph.D. theses of Oualid M. Benkarim and Gerard Martí Juan
- **University of North Carolina** **Chapel Hill (United States)**
Research Fellow 2013–2015
 - Brain MRI segmentation with machine learning: low-rank matrix completion and support vector machines
- **Netherlands Organisation for Applied Scientific Research** **The Hague (Netherlands)**
Research Fellow 2012–2013
 - Analysis of video-data for automated threat detection | Collaboration in EU project ARENA for Security & Defence

Education

- **Ph.D Computer Science** **Tarragona (Spain)**
Universitat Rovira i Virgili 2008–2012
 - Title: Graph matching using position coordinates and local features for image analysis
- **M.Sc Computer Science** **Tarragona (Spain)**
Universitat Rovira i Virgili 2006–2008

Selected Publications

- SCCA-ref: Novel sparse canonical correlation analysis with reference to discover independent spatial associations between white matter hyperintensities and atrophy
 - *Machine Learning in Medical Imaging Workshop, 2018* ([link](#))
- Learning Non-Linear Patch Embeddings with Neural Networks for Label Fusion
 - *Medical Image Analysis, 2017* ([link](#))
- MSClique: discovering multiple structures in image pairs with the maximum weighted clique problem
 - *PLoS ONE, 2016* ([link](#))
- A Transversal approach for patch-based label fusion via matrix completion
 - *Medical Image Analysis, 2015* ([link](#))
- A unified approach to the recognition of complex actions from sequences of zone-crossings
 - *Image and Vision Computing, 2014* ([link](#))

Complete list [here](#)

Certificates, Awards & Mentions

- **Juan de la Cierva Fellowship (Declined)**
Spanish Ministry of Economy and Finance 2017
- **GPU Titan Pascal X**
Nvidia 2016
Support a research project on deep learning for brain MRI segmentation
- **Research Certificate**
Catalan University Quality Assurance Agency 2016
- **Marie Curie Individual Fellowship**
European Commission 2015
- **Editor's Choice article**
Image and Vision Computing Journal 2014
G. Sanroma, et al.: A unified approach to the recognition of complex actions from sequences of zone-crossings. *Image and Vision Computing*, 2014; 32(5):363-378

Service and Leadership

- **Workshop Organizer:** Patch-based Techniques in Medical Imaging at MICCAI [2017](#) and [2018](#)
- **Guest Editor:** *Special Issue on Patch-based Techniques in Medical Imaging* in the Computerized Medical and Imaging Graphics Journal ([link](#))

Languages

- **Spanish, Catalan:** Native
- **English:** Proficient
- **German, French:** Threshold