Adrià Casamitjana

POST-DOC RESEARCHER

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Education

IDEAI Research Center, UPC-BarcelonaTech *Barcelona, Spain*
PHD IN SIGNAL PROCESSING AND MACHINE LEARNING *October 2015 - December 2019*
- Thesis: Study of early estages of Alzheimer's disease using magnetic resonance imaging.
- Supervisor: Dr. Verónica Vilaplana

Kungliga Tekniska Högskolan (KTH) *Stockholm, Sweden*
MASTER OF SCIENCE IN WIRELESS SYSTEMS *September 2013 - June 2015*
- Thesis: New insights on speech signal modeling in a Bayesian framework approach
- Supervisor: Dr. Saikat Chatterjee

Escola Tècnica Superior de Telecomunicacions de Barcelona (ETSETB) *Barcelona, Spain*
TELECOMMUNICATIONS ENGINEERING DEGREE *September 2009 - June 2015*
- Overall mark: 8.2/10

Professional Experience

2022- Curr. **Margarita Salas fellowship (post-doc)**, Universitat de Barcelona (UB)
2019 - 2022 **Post-doc Research Associate**, Center for Medical Image Computing (CMIC) - University College London (UCL)
2015 - 2019 **PhD Student**, Image Processing Group (GPI), Universitata Politècnica de Catalunya (UPC)

Publications

JOURNAL

A. Casamitjana, M. Lorenzi S. Ferraris L.Peter M. Modat A. Stevens B. Fischl T. Vercauteren J. E. Iglesias, "Robust joint registration of multiple stains and MRI for multimodal 3D histology reconstruction: Application to the Allen human brain atlas", *MedIA* (2022)

A. Casamitjana, P.M. Petrone, J.L. Molinuevo, J.D. Gispert, V. Vilaplana, "Projection to Latent Spaces Disentangles Pathological Effects on Brain Morphology in the Asymptomatic Phase of Alzheimer's Disease", *Frontiers in Neurology*, 11 (2020): 648.

M. Mancini, **A. Casamitjana**, L. Peter, E. Robinson, S. Crampsie, D.L. Thomas, J.L. Holton, Z. Jaunmuktane, J.E. Iglesias, "A multimodal computational pipeline for 3D histology of the human brain.", *Scientific reports*, 10.1 (2020): 1-21.

A. Casamitjana, V. Vilaplana, S. Puch, A. Aduriz, C. López, G. Operto, R. Cacciaglia, C. Falcón, J.L. Molinuevo, J.D. Gispert, , "NeAT: a nonlinear analysis toolbox for neuroimaging.", *Neuroinformatics*, (2020): 1-14.

A. Casamitjana, P.M. Petrone, A. Tucholka, C. Falcon, S. Skouras, S JL. Molinuevo, V. Vilaplana, JD. Gispert, "MRI-Based Screening of Preclinical Alzheimer's Disease for Prevention Clinical Trials", *Journal of Alzheimer's disease*, vol. 64, no. 4, pp. 1099-1112, 2018.

P.M. Petrone*, **A. Casamitjana***, C. Falcon, M. Artigues, G. Operto, R. Cacciaglia, J.L. Molinuevo, V. Vilaplana, J.D. Gispert, "Prediction of amyloid pathology in cognitively unimpaired individuals using voxelwise analysis of longitudinal structural brain MRI", *Alzheimer's Research & Therapy*, 11.1 (2019): 1-13.

CONFERENCES AND WORKSHOPS

A. Casamitjana, M. Mancini, J.E. Iglesias, "Synth-by-Reg (SbR): Contrastive learning for synthesis-based registration of paired images.", *International Workshop on Simulation and Synthesis in Medical Imaging*, Springer, Cham, 2021.

H. F. J. Tregidgo, **A. Casamitjana**, C.S. Latimer , M.D. Kilgore, E. Robinson, E. Blackburn,K. Van Leemput, B. Fischl, A.V. Dalca, C.L. Mac Donald, C.D. Keene, J.E. Iglesias, "3D Reconstruction and Segmentation of Dissection Photographs for

MRI-Free Neuropathology.", *International Conference on Medical Image Computing and Computer-Assisted Intervention*, Springer, Cham, 2020.

A. Casamitjana, V. Vilaplana, P.M. Petrone, J.L. Molinuevo, J.D. Gispert, "Shared Latent Structures Between Imaging Features and Biomarkers in Early Stages of Alzheimer's Disease", *International Workshop on PRedictive Intelligence In MEdicine*, pp. 60-67, 2018

A. Casamitjana, M. Catà, I. Sánchez, M. Combalia,V. Vilaplana, "Cascaded V-Net using ROI masks for brain tumor segmentation", *International MICCAI Brainlesion Workshop*, pp.381-391, 2017

A. Casamitjana, S. Puch, A. Aduriz, V. Vilaplana, "3D Convolutional Neural Networks for Brain Tumor Segmentation: a comparison of multi-resolution architectures", *International Workshop on Brainlesion: Glioma, Multiple Sclerosis, Stroke and Traumatic Brain Injuries* , pp. 150-161, 2016

A. Casamitjana, M. Sundin, P. Ghosh, S. Chatterjee, "Bayesian learning for time-varying linear prediction of speech", *23rd European Signal Processing Conference (EUSIPCO)*, IEEE, pp.325-329, 2015

Awards, Fellowships, & Grants

2022-2024	**Margarita Salas post-doc fellowship**, Ministerio de Educación, Cultura y Deporte (MINECO)	
2021	**Best paper award, SASHIMI workshop**, NVIDIA	*RTX 3090 GPU*
2015-2019	**Formación Profesorado Universitario (FPU14/05988), PhD fellowship**, Ministerio de Educación, Cultura y Deporte (MINECO)	
2012	**BSc ranking: 3rd.**, Universitat Politècnica de Catalunya (UPC)	

Teaching Experience

2021 - Curr.	**Linear Algebra**, Teaching assistant	*UOC*
2020-2021	**Machine learning in medical imaging**, Guest lectures	*UCL*
2017-2019	**Signals and Systems**, Teaching assistant	*UPC*
2016-2018	**Image and Video Analysis**, Teaching assistant	*UPC*
2015	**Speech signal processing**, Teaching assistant	*KTH*

Mentoring

2018	**Clara Bonnín Rosselló**, Master Thesis: "Brain lesion segmentation using Convolutional Neuronal Networks"	*UPC*
2016	**Marcel Catà Villà**, Bachelor thesis: "Feature selection methods for predicting pre-clinical stage in Alzheirmer's Disease"	*UPC*

Outreach & Professional Development

SERVICE AND OUTREACH

2022	**Pint of Science**, Organiser	*Girona*

PEER REVIEW

IEEE Transactions on Medical Imaging
Medical Image Analysis (MedIA)