

# Ignacio Peis

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Universidad Carlos III de Madrid  
Dpt. of Signal Theory and Communications  
Signal Processing Group  
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POSITIONS    **Universidad Carlos III de Madrid**    Oct. 2019 - Present

*Predoctoral Researcher*  
Signal Processing Group  
Supervisors: Prof. Dr. Antonio Artés Rodríguez  
Dr. Pablo Martínez Olmos

**University of Cambridge**    Feb. 2021 - Feb. 2022

*Visiting researcher*  
Machine Learning Group  
Supervisor: Dr. José Miguel Hernández-Lobato

**Universidad Carlos III de Madrid**    Feb. 2017 - Sept. 2019

*Research associate*  
Signal Processing Group  
Supervisor: Prof. Dr. Antonio Artés Rodríguez

EDUCATION    **Universidad Carlos III de Madrid**    Oct. 2018 - Present

*PhD in Probabilistic Machine Learning*  
Signal Processing Group  
Advisors: Prof. Dr. Antonio Artés Rodríguez  
Dr. Pablo Martínez Olmos

**Universidad Carlos III de Madrid**    Sep. 2016 - Jul. 2018

*M.Sc. in Multimedia and Communications*  
*M.Sc. in Telecommunications Engineering*

**Universidad de Granada**    Sep. 2012 - Jul. 2016

*B.Sc. in Telecommunications Engineering*

TEACHING    *Advanced Machine Learning and Feature Engineering*    2022

**BBVA, Fundación UC3M**

*Machine Learning Fundamentals*    2020-2022

**BBVA, Fundación UC3M**

*Machine Learning II*    2020, 2022

Bachelor in Data Science and Engineering  
**Universidad Carlos III de Madrid**

	<i>Neural Networks</i>	2022
	Bachelor in Data Science and Engineering <b>Universidad Carlos III de Madrid</b>	
	<i>Communications Theory</i>	2022
	Bachelor in Telecommunications Engineering Bachelor in Sound and Image Engineering <b>Universidad Carlos III de Madrid</b>	
COURSES	<b>AI and Machine Learning in Healthcare Summer School</b> <i>Cambridge Centre for AI in Medicine</i> <i>University of Cambridge, UK</i>	Sep. 2022
	<b>Gaussian Process and Uncertainty Quantification Summer School, 2020.</b> <i>University of Sheffield, UK</i>	Sep. 2020
	<b>Machine Learning Summer School (MLSS)</b> <i>Skoltech Institute of Science and Technology, Moscow, Russia</i>	Sep. 2019
	<b>Machine Learning Frontiers in Precision Medicine (MLFPM) 1st Summer School</b> <i>ETH Zurich, Switzerland</i>	Sep. 2019
	<b>Machine Learning Summer School (MLSS)</b> <i>Universidad Autónoma de Madrid, Spain</i> Volunteer staff	Sep. 2018
	<b>Gaussian Process and Uncertainty Quantification Summer School, 2017.</b> <i>University of Sheffield, UK</i>	Sep. 2017
REVIEWING	<b>Artificial Intelligence and Statistics (AISTATS)</b>	2022
	<b>Journal of Machine Learning Research (JMLR)</b>	2022
	<b>Journal of Biomedical and Health Informatics (JBHI)</b>	since 2018
TALKS	<i>Missing Data Imputation and Acquisition with Deep Hierarchical Models and Hamiltonian Monte Carlo</i> Signal Processing Group <b>Universidad Carlos III de Madrid</b>	Jun. 2022

- PUBLICATIONS I. Peis, P. M. Olmos and A. Artés-Rodríguez. **Unsupervised Learning of Global Factors in Deep Generative Models**. In *Pattern Recognition*, vol. 134, p. 109130, 2022. [pdf]
- I. Peis, C. Ma and J. M. Hernández-Lobato. **Missing Data Imputation and Acquisition with Deep Hierarchical Models and Hamiltonian Monte Carlo**. In *Advances in Neural Information Processing Systems 35 (NeurIPS)*, 2022. [pdf]
- I. Peis, J. D. López-Moríñigo, M. M. Pérez-Rodríguez, M. L. Barrigón, M. Ruiz-Gómez, A. Artés-Rodríguez and E. Baca-García. **Actigraphic recording of motor activity in depressed inpatients: a novel computational approach to prediction of clinical course and hospital discharge**. In *Scientific reports*, 10. Nature, 2020. [pdf]
- I. Peis, P. M. Olmos, C. Vera-Varela, M. L. Barrigón, P. Courtet, E. Baca-García and A. Artés Rodríguez. **Deep Sequential Models for Suicidal Ideation from Multiple Source Data**. In *Journal of Biomedical and Health Informatics*, vol. 23, no. 6. IEEE, 2019. [pdf] [html]
- D. Castillo-Barnes, I. Peis, F. J. Martínez-Murcia, F. Segovia, I. A. Illán, J. M. Górriz, J. Ramírez, D. Salas-Gonzalez. **A Heavy Tailed Expectation Maximization Hidden Markov Random Field Model with Applications to Segmentation of MRI**. In *Frontiers in Neuroinformatics*, 11, 66, 2017. [pdf]
- I. Peis, I. A. Illán, F. J. Martínez-Murcia, F. Segovia, J. M. Górriz, J. Ramírez, E. W. Lang & D. Salas-Gonzalez. **MRI brain segmentation using hidden Markov random fields with alpha-stable distributions**. In *IEEE Nuclear Science Symposium, Medical Imaging Conference and Room-Temperature Semiconductor Detector Workshop (NSS/MIC/RTSD)* (pp. 1-3). IEEE, 2016. [html]
- DISSERTATIONS I. Peis. **Deep sequential models with attention for psychiatric patients clinical assessment**. *M.Sc. Thesis Dissertation (Multimedia and Communications)*, 2018.
- I. Peis. **Activity monitoring in depressed patients in the hospital setting: a pilot study testing new methods of actigraphy data analysis for predicting clinical progress and date of hospital discharge**. *M.Sc. Thesis Dissertation (Telecommunications Engineering)*, 2018.

I. Peis. **Hidden Markov Random Fields with alpha-stable distributions for brain Magnetic Resonance Images.** *B.Sc. Thesis Dissertation (Telecommunications Engineering), 2016.*

GRANTS	FPU granted to fund doctoral studies <i>Spanish Ministry of Education</i>	2019
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LANGUAGES	<b>Spanish</b> Mother tongue <b>English</b> Advanced <b>French</b> Basic
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PROGRAMMING SKILLS	<b>Main Languages</b>	PYTHON, MATLAB, C, JAVA
	<b>Frameworks</b>	PYTORCH, TENSORFLOW, SKLEARN, GPY, STAN
	<b>Others</b>	R, C++, SQL, HTML, JAVASCRIPT, CSS3