

Ignacio Peis

Universidad Carlos III de Madrid
Dpt. of Signal Theory and Communications
Signal Processing Group
Avda. de la Universidad 30
28911 Leganés, Madrid
Spain

ipeis@tsc.uc3m.es
Office 4.3.B01
Phone: (+34) 91 624 8839
Website: <https://ipeis.github.io/>
Google Scholar page

POSITIONS	Universidad Carlos III de Madrid <i>Predoctoral Researcher and Teaching Assistant</i> Signal Processing Group Supervisors: Prof. Dr. Antonio Artés Rodríguez Dr. Pablo Martínez Olmos	Oct. 2019 - Present
	Fundación UC3M <i>Course Instructor</i> Fundamentals, Intermediate and Advanced Machine Learning courses for BBVA employees.	Dec. 2020 - Present
	University of Cambridge <i>Visiting researcher</i> Machine Learning Group Supervisor: Dr. José Miguel Hernández-Lobato	Feb. 2021 - Feb. 2022
	Universidad Carlos III de Madrid <i>Research associate</i> Signal Processing Group Supervisor: Prof. Dr. Antonio Artés Rodríguez	Feb. 2017 - Sept. 2019
EDUCATION	Universidad Carlos III de Madrid <i>PhD in Probabilistic Machine Learning</i> <i>Advisors:</i> Prof. Dr. Antonio Artés Rodríguez Dr. Pablo Martínez Olmos	Oct. 2018 - Present
	Universidad Carlos III de Madrid <i>M.Sc. in Multimedia and Communications</i> <i>M.Sc. in Telecommunications Engineering</i> <i>Two dissertations with highest mark</i> <i>One course with honors</i>	Sep. 2016 - Jul. 2018
	Universidad de Granada <i>B.Sc. in Telecommunications Engineering</i> <i>Five courses with honors</i>	Sep. 2012 - Jul. 2016

TEACHING	<i>Advanced Machine Learning</i> BBVA, Fundación UC3M	2023
	<i>Intermediate Machine Learning and Feature Engineering</i> BBVA, Fundación UC3M	2022 - Present
	<i>Machine Learning Fundamentals</i> BBVA, Fundación UC3M	2020-Present
	<i>Machine Learning II</i> Bachelor in Data Science and Engineering Teaching evaluation survey: 4.67/5 (2020), 4.63/5 (2022) Universidad Carlos III de Madrid	2020, 2022
	<i>Neural Networks</i> Bachelor in Data Science and Engineering Teaching evaluation survey: 4.13/5 Universidad Carlos III de Madrid	2022
REVIEWING	<i>Communications Theory</i> Bachelor in Telecommunications Engineering Bachelor in Sound and Image Engineering Teaching evaluation survey: 3.94/5, 4.14/5 Universidad Carlos III de Madrid	2022
	Artificial Intelligence and Statistics (AISTATS) Selected as Top-10% Reviewer	2022
	Journal of Machine Learning Research (JMLR)	2022 - Present
	Journal of Biomedical and Health Informatics (JBHI)	2018 - Present
CONFERENCE PUBLICATIONS		
2023	B. Koyuncu, P. Sánchez, I. Peis , P. M. Olmos and I. Valera. Variational Mixture of HyperGenerators for Learning Distributions Over Functions. <i>International Conference of Machine Learning, vol. 40</i> , 2023. [accepted] [pdf]	
2022	I. Peis , C. Ma and J. M. Hernández-Lobato. Missing Data Imputation and Acquisition with Deep Hierarchical Models and Hamiltonian Monte Carlo . In <i>Advances in Neural Information Processing Systems 35 (NeurIPS)</i> , 2022. [pdf] [slides] [video] [poster]	

- 2016 **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]

JOURNAL PUBLICATIONS

- 2022 **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]
- 2020 **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]
- 2019 **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]
- 2017 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]

- TALKS *Information Acquisition and Distributions of Functions with Deep Generative Models* Jun. 2023
Pioneer Centre for Artificial Intelligence, Copenhagen, Denmark
[slides]
- Missing Data Imputation and Acquisition with Deep Hierarchical Models and Hamiltonian Monte Carlo* Dec. 2022
Oral (video) and poster presentation
NeurIPS22, New Orleans, USA
[slides] [video] [poster]
- Missing Data Imputation and Acquisition with Deep Hierarchical Models and Hamiltonian Monte Carlo* Jun. 2022
Signal Processing Group
Universidad Carlos III de Madrid

	<i>Deep Sequential Models for Suicidal Ideation from Multiple Source Data</i> Signal Processing Group Universidad Carlos III de Madrid	Jul. 2018
COURSES	AI and Machine Learning in Healthcare Summer School <i>Cambridge Centre for AI in Medicine</i> <i>University of Cambridge, UK</i>	Sep. 2022
	Gaussian Process and Uncertainty Quantification Summer School, 2020. <i>University of Sheffield, UK</i>	Sep. 2020
	Machine Learning Summer School (MLSS) <i>Skoltech Institute of Science and Technology, Moscow, Russia</i>	Sep. 2019
	Machine Learning Frontiers in Precision Medicine (MLFPM) 1st Summer School <i>ETH Zurich, Switzerland</i>	Sep. 2019
	Machine Learning Summer School (MLSS) <i>Universidad Autónoma de Madrid, Spain</i>	Sep. 2018
	Gaussian Process and Uncertainty Quantification Summer School, 2017. <i>University of Sheffield, UK</i>	Sep. 2017
DISSERTATIONS	I. Peis. Advanced Inference and Representation Learning Methods in Variational Autoencoders. <i>PhD Thesis Dissertation (Probabilistic Machine Learning), 2023.</i>	
	I. Peis. Deep sequential models with attention for psychiatric patients clinical assessment. <i>M.Sc. Thesis Dissertation (Multimedia and Communications), 2018.</i>	
	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. <i>M.Sc. Thesis Dissertation (Telecommunications Engineering), 2018.</i>	
	I. Peis. Hidden Markov Random Fields with alpha-stable distributions for brain Magnetic Resonance Images. <i>B.Sc. Thesis Dissertation (Telecommunications Engineering), 2016.</i>	

GRANTS	FPU granted to fund doctoral internships <i>Spanish Ministry of Education</i>	2021
	FPU (<i>Formación de Profesorado Universitario</i>) granted to fund doctoral studies <i>Spanish Ministry of Education</i>	2019

LANGUAGES		Spanish	Mothertongue
		English	Advanced
PROGRAMMING SKILLS	Main Languages	PYTHON, MATLAB, C, JAVA	
	Frameworks	PYTORCH, TENSORFLOW, SKLEARN, STAN	
	Others	R, C++, SQL, HTML, JAVASCRIPT, CSS3	