## Ignacio Peis

Universidad Carlos III de Madrid ipeis@tsc.uc3m.es

Dpt. of Signal Theory and Communications Office 4.3.B01

Signal Processing Group Phone: (+34) 91 624 8839 Avda. de la Universidad 30 Skype: ignacio.peis

28911 Leganés, Madrid Spain https://ipeis.github.io/

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

 $\begin{array}{c} Research \ associate \\ Signal \ Processing \ Group \end{array}$ 

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

COURSES AI and Machine Learning in Healthcare Summer Sep. 2022

School

Cambridge Centre for AI in Medicine University of Cambridge, UK

Gaussian Process and Uncertainty Quantification Sep. 2020

Summer School, 2020.

University of Sheffield, UK

	Machine Learning Summer School (MLSS) Skoltech Institute of Science and Technology, Moscow, Russia	Sep. 2019
	Machine Learning Frontiers in Precision Medicine (MLFPM) 1st Summer School ETH Zurich, Switzerland	Sep. 2019
	Machine Learning Summer School (MLSS) Universidad Autónoma de Madrid, Spain Volunteer staff	Sep. 2018
	Gaussian Process and Uncertainty Quantification Summer School, 2017. University of Sheffield, UK	Sep. 2017
Talks	Missing Data Imputation and Acquisition with Deep Hi- erarchical Models and Hamiltonian Monte Carlo Signal Processing Group Universidad Carlos III de Madrid	Jun. 2022
	Deep Sequential Models for Suicidal Ideation from Multiple Source Data Signal Processing Group Universidad Carlos III de Madrid	Jul. 2018
REVIEWING	Journal of Machine Learning Research (JMLR)	2022
	Journal of Biomedical and Health Informatics (JBHI)	2018 - 2022
TEACHING	Advanced Machine Learning and Feature Engineering BBVA, Fundación UC3M	2022
	Machine Learning Fundamentals BBVA, Fundación UC3M	2020-2022
	Machine Learning II Bachelor in Data Science and Engineering Universidad Carlos III de Madrid	2020, 2022
	Neural Networks Bachelor in Data Science and Engineering Universidad Carlos III de Madrid	2022

## Publications

- I. Peis, C. Ma and J. M. Hernández-Lobato. **Missing Data Imputation and Acquisition with Deep Hierarchical Models and Hamiltonian Monte Carlo**. arXiv preprint arXiv:2202.04599. 2022.
- I. Peis, P. M. Olmos and A. Artés-Rodríguez. Unsupervised Learning of Global Factors in Deep Generative Models. arXiv preprint arXiv:2012.08234. 2021.
- 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.
- 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.
- 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.
- 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.

## 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.

LANGUAGES Spanish Mothertongue

English Advanced French Basic

Programming Main Languages Python, Matlab, C, Java

SKILLS

 $\begin{array}{lll} \textbf{Frameworks} & & \text{PyTorch, TensorFlow, sklearn, GPy, Stan} \\ \textbf{Others} & & \text{R, C++, SQL, HTML, Javascript, CSS3} \end{array}$