

Ignacio Peis

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POSITIONS	Technical University of Denmark, DTU <i>Postdoctoral Researcher</i> Section for Cognitive Systems Dept. of Applied Mathematics and Computer Science (DTU Compute)	Oct. 2023 - Present
	Intor.AI <i>AI Researcher</i>	Nov. 2024 - Present
	EBIS Business School <i>Lecturer</i> Master in Data Science and Artificial Intelligence	Oct. 2024 - Present
	Fundación UC3M & BBVA <i>Instructor</i> Fundamentals, Intermediate and Advanced Machine Learning courses for BBVA employees	Dec. 2020 - Dec. 2024
	Universidad Carlos III de Madrid <i>Predoctoral Researcher & Teaching Assistant</i> Signal Processing Group Supervisors: Prof. Antonio Artés Rodríguez Dr. Pablo Martínez Olmos	Oct. 2019 - Sept. 2023
	University of Cambridge <i>Visiting researcher</i> Machine Learning Group Supervisor: Prof. José Miguel Hernández-Lobato	Feb. 2021 - Feb. 2022
	Universidad Carlos III de Madrid <i>Research associate</i> Signal Processing Group Supervisor: Prof. Antonio Artés Rodríguez	Feb. 2017 - Sept. 2019
AFFILIATIONS	Pioneer Centre for Artificial Intelligence <i>Postdoc</i>	Nov 2023 - Present
	Danish Data Science Academy <i>Postdoc Fellow</i>	Oct 2023 - Present

EDUCATION	Universidad Carlos III de Madrid <i>PhD in Probabilistic Machine Learning</i> Cum Laude Outstanding PhD Thesis Award <i>Advisors:</i> Prof. Antonio Artés Rodríguez Dr. Pablo Martínez Olmos	Oct 2018 - Oct 2023
	Universidad Carlos III de Madrid <i>M.Sc. in Telecommunications Engineering</i> <i>Dissertation with highest mark</i>	Sep. 2016 - Jul. 2018
	Universidad Carlos III de Madrid <i>M.Sc. in Multimedia and Communications</i> <i>Dissertation 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
AWARDS & DISTINCTIONS	Best Reviewer Award <i>International Conference on Artificial Intelligence and Statistics (AISTATS)</i>	2025
	Selected as Top Reviewer <i>Neural Information Processing Systems (NeurIPS)</i>	2024
	Selected as Top-10% Reviewer <i>International Conference on Artificial Intelligence and Statistics (AISTATS)</i>	2023
	Outstanding PhD Thesis Award <i>Universidad Carlos III de Madrid</i> PhD Defense Committee: Dr. Daniel Hernández Lobato, UAM Dr. Francisco R. Ruiz, Google Deepmind Prof. Fernando Pérez Cruz, ETH, SDSC	2023
	Postdoc Fellowship <i>Danish Data Science Academy</i> <i>Novo Nordisk Foundation</i>	2023

CONFERENCE PUBLICATIONS

- 2025 **I. Peis**, B. Koyuncu, I. Valera and J. Frellsen. **Hyper-Transforming Latent Diffusion Models**. *Proceedings of the 42nd International Conference on Machine Learning, in Proceedings of Machine Learning Research*, 2025.
[pdf] [code]
- 2023 B. Koyuncu, P. Sánchez-Martín, **I. Peis**, P. M. Olmos and I. Valera. **Variational Mixture of HyperGenerators for Learning Distributions Over Functions**. *Proceedings of the 40th International Conference on Machine Learning, in Proceedings of Machine Learning Research 202:17660-17683*, 2023.
[pdf] [code] [video] [poster]
- 2022 **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 (NeurIPS) 35: 35839-35851*, 2022.
[pdf] [code] [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] [code]
- 2020 **I. Peis**, J. D. López-Morínigo, 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]

PREPRINTS

- 2024 B. James, S. Pollok, **I. Peis**, J. Frellsen and R. Bjørk. **Scalable physical source-to-field inference with hypernetworks**. *arXiv preprint arXiv:2405.05981*, 2024.
[pdf]

- TALKS *Hyper-Transforming Latent Diffusion Models* Jun. 2025
Section for Cognitive Systems
[slides]
- Hyper-Transforming Latent Diffusion Models* Apr. 2025
CITIC, Universidad de Granada
[slides]
- Variational Mixture of HyperGenerators for Learning Distributions Over Functions* Dec. 2023
Andaluz.IA forum
[slides]
- 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
- Deep Sequential Models for Suicidal Ideation from Multiple Source Data* Jul. 2018
Signal Processing Group
Universidad Carlos III de Madrid

TEACHING	<i>Data Mining, Machine Learning and Deep Learning</i> M.Sc. in Data Science and Artificial Intelligence EBIS, EUNEIZ, Microsoft	2024
	<i>Intermediate Machine Learning and Feature Engineering</i> BBVA, Fundación UC3M	2022 - 2024
	<i>Advanced Machine Learning</i> BBVA, Fundación UC3M	2023 - 2024
	<i>Intermediate Machine Learning and Feature Engineering</i> BBVA, Fundación UC3M	2022 - 2024
	<i>Machine Learning Fundamentals</i> BBVA, Fundación UC3M	2020 - 2024
	<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
	The European Conference on Artificial Intelligence (ECAI)	2025 - Present
	Workshop on Neural Network Weights as a New Data Modality (ICLR)	2025 - Present
	International Conference on Machine Learning (ICML)	2025 - Present
	Transactions on Machine Learning Research (TMLR)	2025 - Present
	Northern Lights Deep Learning Conference (NLDL)	2025 - Present
	EurIPS 25 Workshop Reviewer	2025

	International Conference on Learning Representations (ICLR)	2024 - Present
	Neural Information Processing Systems (NeurIPS) Selected as Top Reviewer (2024)	2024 - Present
	Association for Uncertainty in Artificial Intelligence (UAI)	2024 - Present
	Artificial Intelligence and Statistics (AISTATS) Selected as Top-10% Reviewer (2023) Best Reviewer Award (2025)	2022 - Present
	Journal of Machine Learning Research (JMLR)	2022 - Present
	Journal of Biomedical and Health Informatics (JBHI)	2018 - Present
	Workshop on Deep Generative Models for Health (DGM4H)	2023
PROJECTS	INR-Gen: “Implicit Neural Representations Generative Modelling” Principal Investigator Budget: DKK 1.200.000,00 <i>Danish Data Science Academy & Novo Norkisk Foundation, Denmark</i>	2023-2026
	PRACTICO-CM: “Psiquiatría Computacional y Modelos Integrales de Comportamiento” Research team member Budget: 645.775,90 € <i>Consejería de Educación e Investigación, CAM, Spain</i>	2019 - 2022
	“Aprendizaje máquina y computación masiva para medicina personalizada y análisis cuantitativo del clima” Research team member Budget: 124.509,00 € <i>Agencia Estatal de Investigación (AEI), Spain</i>	2019 - 2022
	“Métodos computacionales bayesianos avanzados para estimación, predicción y control en sistemas multisensoriales complejos” Research team member Budget: 314.600,00 € <i>Ministerio de Economía, Comercio y Empresa, Spain</i>	2016 - 2019
	“Modelos profundos y explicables basados en variables latentes para salud mental” Research team member	2022 - 2025

Budget: 190.212,00 €
Agencia Estatal de Investigación (AEI), Spain

GRANTS	FPU grant to fund doctoral internships <i>Spanish Ministry of Education</i>	2021
	FPU (<i>Formación de Profesorado Universitario</i>) grant to fund doctoral studies <i>Spanish Ministry of Education</i>	2019
COURSES	Model Parallelism: Building and Deploying Large Neural Networks <i>NVIDIA</i>	Oct. 2024
	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> [pdf] [slides]	
	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.** *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.*

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