Daniel Barrejón

Universidad Carlos III de Madrid

Dpt. of Signal Theory and Communications

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Mar. 2022 - Jul. 2022

Positions University of Amsterdam

Visiting Researcher: Amsterdam Machine Learning Lab (AMLab)

Supervisor: Dr. Eric Nalisnick

Fundación UC3M Dec. 2020 - Present

Course Instructor

Fundamentals, Advanced Machine Learning and Natural Language Processing courses

for BBVA employees.

Universidad Carlos III de Madrid Oct. 2018 - Sept. 2019

Research Intern (Graduate): Group of Multimedia Processing

Research field: Computer Vision.

Universidad Carlos III de Madrid Sept. 2017 - Feb. 2018

Research Intern (Undergraduate): Signal Theory and Communications.

Research field: Bayesian Statistics for Signal Processing.

Education Universidad Carlos III de Madrid Sept. 2019 - Present

PhD student in Machine Learning.

Advisors: Dr. Pablo M. Olmos and Dr. Antonio Artés.

Universidad Carlos III de Madrid Sep. 2018 - Sept. 2019

M.Sc. in Multimedia and Communications.

Technische Universität München Oct. 2016 - Aug. 2017

Program: M.Sc. in Elektrotechnik und Informationstechnik.

Erasmus Scholarship.

Universidad Carlos III de Madrid Sept. 2014 - Sept. 2018

B.Sc. in Telecommunications Technologies Engineering.

Teaching Universidad Carlos III de Madrid

T.A in Neural Networks (Bsc. in Data Science and Eng.) 2023 T.A in Machine Learning in Health (Bsc. in Data Science and Eng.) 2022

T.A in Systems and Signals (Bsc. in Biomedical Eng.) 2021, 2022 T.A in Linear Systems (Bsc. in Telecommunications Eng.) 2021

BBVA and Fundación Universidad Carlos III de Madrid T.A in Advanced Machine Learning 2023 T.A in Machine Learning Fundamentals 2021, 2022, 2023 2021, 2022, 2023

Projects Deep-DARWiN Sept. 2019 - Sept. 2021

Domain Alignment and Data Wrangling with Deep Generative Models.

Oct. 2018 - Sept. 2019 Real-time highway object detection

Computer vision project using Deep Learning.

T.A in Natural Language Processing

Sep. 2017 - Oct. 2018 Detection of behavioural changes in psychiatric patients. Daniel Barrejón.

B.Sc. Thesis Dissertion

Update: May 24, 2023

Summer schools

Gaussian Process Summer School (GPSS), University of Sheffield. Nordic Probabilistic AI School (ProbAi), Norwegian Open AI Lab Eastern European Machine Learning Summer School (EEML) Machine Learning Frontiers in Precision Medicine (MLFPM).

2020, 2021 2021 2021 2019, 2020

Publications

*Co-first authors. Order determined by coin flip.

Journals

D.Barrejón, Pablo M. Olmos, A.Artés-Rodríguez

Medical data wrangling with sequential variational autoencoders

In IEEE Journal of Biomedical and Health Informatics, 2021.

Peer-review Conferences R. Verma*, $\underline{\mathrm{D.Barrej\acute{o}n}}^*,$ E. Nalisnick

Learning to Defer to Multiple Experts: Consistent Surrogate Losses, Con-

fidence Calibration, and Conformal Ensembles Artificial Intelligent and Statistics (AISTATS), 2023.

R. Verma, $\underline{\mathrm{D.Barrej\acute{o}n}},$ E. Nalisnick

On the Calibration of Learning to Defer to Multiple Experts

In ICML 2022 Workshop on Human-Machine Collaboration and Teaming, 2022.

 $\underline{\mathrm{D.Barrej\acute{o}n}}, \mathrm{Pablo\ M.\ Olmos}, \mathrm{A.Art\acute{e}s\text{-}Rodr\acute{q}uez}, \mathbf{Temporal\text{-}hierarchical\ VAE\ for\ Heterogenous\ and\ Missing\ Data\ Handling}, \mathrm{Bayesian\ Deep\ Learning\ workshop}$

@NeurIPS 2020, Poster presentation

Reviewing

Neural Information Processing Systems (NeurIPS)	2023
Advances in Approximate Bayesian Inference (AABI) @ ICML	2023
Structured Probabilistic Inference & Generative Modeling (SPIGM) @ ICML	2023
International Conference on Machine Learning (ICML)	2023
Artificial Intelligence and Statistics (AISTATS)	2023
Multimodal Representation Learning (MLR) Workshop @ ICLR	2023
I can't believe it's not better (ICBINB) Workshop @ NeurIPS	2022

Grants & Prizes

Top 10% reviewer in Artificial Intelligence and Statistics (AISTATS) FPU Grant to fund doctoral Studies, Spanish Ministry of Education

2021, 2022

2023

2020

Volunteering

Volunteer and attendant in Artificial Intelligence and Statistics (AISTATS)
Tutor for Linear Algebra in Universidad Carlos III de Madrid
Let's be friends with books: Erasmus + project in Iğdır, Turkey (19 Apr.- 26 Apr.)

 $2018 \\ 2017$

Languages

Spanish: Mother tongue. English: Advanced User C1.

French: Upper Intermediate User B2. German: Intermediate User B1.

Computer Skills

Python, Matlab, Java, C, Latex.

DL Frameworks: Pytorch, Tensorflow, Keras.

Others: OpenCV, Git, Inkscape, Logic Pro X, Ableton Live.

References

Dr. Pablo. M. Olmos, Universidad Carlos III de Madrid.

Dr. Antonio Artés-Rodríguez, Universidad Carlos III de Madrid.

Dr. Eric Nalisnick, University of Amsterdam.

Update: May 24, 2023