

# Daniel Barrejón

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## Positions

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| <b>University of Amsterdam</b><br><i>Visiting Researcher</i> : Amsterdam Machine Learning Lab (AMLab)<br>Supervisor: Dr. Eric Nalisnick   | Mar. 2022 - Jul. 2022  |
| <b>Fundación UC3M</b><br><i>Course Instructor</i><br>Fundamentals, Advanced Machine Learning and Natural Language Processing courses for BBVA employees.                                    | Dec. 2020 - Present    |
| <b>Universidad Carlos III de Madrid</b><br><i>Research Intern (Graduate)</i> : Group of Multimedia Processing<br>Research field: <i>Computer Vision</i> .                                   | Oct. 2018 - Sept. 2019 |
| <b>Universidad Carlos III de Madrid</b><br><i>Research Intern (Undergraduate)</i> : Signal Theory and Communications.<br>Research field: <i>Bayesian Statistics for Signal Processing</i> . | Sept. 2017 - Feb. 2018 |

## Education

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| <b>Universidad Carlos III de Madrid</b><br>PhD student in Machine Learning.<br>Advisors: Dr. Pablo M. Olmos and Dr. Antonio Artés. | Sept. 2019 - Present    |
| <b>Universidad Carlos III de Madrid</b><br>M.Sc. in Multimedia and Communications.   | Sep. 2018 - Sept. 2019  |
| <b>Technische Universität München</b><br>Program: <i>M.Sc. in Elektrotechnik und Informationstechnik</i> .<br>Erasmus Scholarship. | Oct. 2016 - Aug. 2017   |
| <b>Universidad Carlos III de Madrid</b><br>B.Sc. in Telecommunications Technologies Engineering.                                   | Sept. 2014 - Sept. 2018 |

## Teaching

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| <b>Universidad Carlos III de Madrid</b><br><i>T.A</i> in Neural Networks (Bsc. in Data Science and Eng.) | 2023             |
| <i>T.A</i> in Machine Learning in Health (Bsc. in Data Science and Eng.)                                 | 2022             |
| <i>T.A</i> in Systems and Signals (Bsc. in Biomedical Eng.)  | 2021, 2022       |
| <i>T.A</i> in Linear Systems (Bsc. in Telecommunications Eng.)   | 2021             |
| <b>BBVA and Fundación Universidad Carlos III de Madrid</b><br><i>T.A</i> in Advanced Machine Learning    | 2023             |
| <i>T.A</i> in Machine Learning Fundamentals  | 2021, 2022, 2023 |
| <i>T.A</i> in Natural Language Processing  | 2021, 2022, 2023 |

## Projects

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| <b>Deep-DARWiN</b><br>Domain Alignment and Data Wrangling with Deep Generative Models.                                | Sept. 2019 - Sept. 2021 |
| <b>Real-time highway object detection</b><br>Computer vision project using Deep Learning.                             | Oct. 2018 - Sept. 2019  |
| <b>Detection of behavioural changes in psychiatric patients.</b> Daniel Barrejón.<br><i>B.Sc. Thesis Dissertation</i> | Sep. 2017 - Oct. 2018   |

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| Summer schools          | <b>Gaussian Process Summer School</b> (GPSS), University of Sheffield.<br><b>Nordic Probabilistic AI School</b> (ProbAi), Norwegian Open AI Lab<br><b>Eastern European Machine Learning Summer School</b> (EEML)<br><b>Machine Learning Frontiers in Precision Medicine</b> (MLFPM).   | 2020, 2021<br>2021<br>2021<br>2019, 2020             |
| Publications            | *Co-first authors. Order determined by coin flip.  |  |
| Journals                | <u>D.Barrejón</u> , Pablo M. Olmos, A.Artés-Rodríguez<br><b>Medical data wrangling with sequential variational autoencoders</b><br><i>In IEEE Journal of Biomedical and Health Informatics, 2021.</i>  |  |
| Peer-review Conferences | R. Verma*, <u>D.Barrejón</u> *, E. Nalisnick<br><b>Learning to Defer to Multiple Experts: Consistent Surrogate Losses, Confidence Calibration, and Conformal Ensembles</b><br><i>Artificial Intelligent and Statistics (AISTATS), 2023.</i><br><br>R. Verma, <u>D.Barrejón</u> , E. Nalisnick<br><b>On the Calibration of Learning to Defer to Multiple Experts</b><br><i>In ICML 2022 Workshop on Human-Machine Collaboration and Teaming, 2022.</i><br><br><u>D.Barrejón</u> , Pablo M. Olmos, A.Artés-Rodríguez, <b>Temporal-hierarchical VAE for Heterogenous and Missing Data Handling</b> , Bayesian Deep Learning workshop @NeurIPS 2020, Poster presentation |  |
| Reviewing               | Neural Information Processing Systems (NeurIPS)<br>International Conference on Machine Learning (ICML)<br>Artificial Intelligence and Statistics (AISTATS)<br>Advances in Approximate Bayesian Inference (AABI) @ ICML<br>Structured Probabilistic Inference & Generative Modeling (SPIGM) @ ICML<br>Multimodal Representation Learning (MLR) Workshop @ ICLR<br>I can't believe it's not better (ICBINB) Workshop @ NeurIPS   | 2023<br>2023<br>2023<br>2023<br>2023<br>2023<br>2022 |
| Grants & Prizes         | <b>Top 10% reviewer</b> in <i>Artificial Intelligence and Statistics (AISTATS)</i><br><b>FPU Grant</b> to fund doctoral Studies, Spanish Ministry of Education   | 2023<br>2020   |
| Volunteering            | Volunteer and attendant in <i>Artificial Intelligence and Statistics (AISTATS)</i><br>Tutor for Linear Algebra in Universidad Carlos III de Madrid<br><i>Let's be friends with books</i> : Erasmus + project in Iğdır, Turkey (19 Apr.- 26 Apr.)   | 2021, 2022<br>2018<br>2017                           |
| Languages               | <b>Spanish</b> : Mother tongue.<br><b>English</b> : Advanced User C1.<br><b>French</b> : Upper Intermediate User B2.<br><b>German</b> : Intermediate User B1.  |  |
| Computer Skills         | Python, Matlab, Java, C, Latex.<br><b>DL Frameworks</b> : Pytorch, Tensorflow, Keras.<br><b>Others</b> : OpenCV, Git, Inkscape, Logic Pro X, Ableton Live.   |  |
| References              | Dr. Pablo. M. Olmos, Universidad Carlos III de Madrid.<br>Dr. Antonio Artés-Rodríguez, Universidad Carlos III de Madrid.<br>Dr. Eric Nalisnick, University of Amsterdam.   |  |