

# Pablo Moreno-Muñoz

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|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| POSITIONS                    | <b>Technical University of Denmark (DTU)</b><br><i>Postdoctoral researcher</i> . Cognitive Systems Section<br>with Prof. Søren Hauberg (DTU Compute)  | April 2021 - Present  |
|                              | <b>Max Planck Institute for Intelligent Systems</b><br><i>Research intern</i> . Probabilistic Learning Group<br>Supervisor: Dr. Isabel Valera         | Feb. 2019 - Jun. 2019 |
|                              | <b>University of Sheffield</b><br><i>Visiting researcher</i> . Probabilistic Machine Learning Group<br>Supervisor: Dr. Mauricio A. Álvarez            | Mar. 2018 - May 2018  |
|                              | <b>IMDEA Networks</b><br><i>Student intern</i> . Madrid Institute of Advanced Studies                                                                 | Oct. 2015             |
|                              | <b>European Space Agency (ESA)</b><br><i>Trainee</i> . European Space Astronomy Center<br>Supervisors: Dr. Tim Rawle and Dr. Bruno Altieri            | Mar. 2015 - Sep. 2015 |
|                              |                                                                                                                                                       |                       |
| EDUCATION                    | <b>Universidad Carlos III de Madrid</b><br><i>PhD student in Machine Learning</i><br>Signal Processing Group Laboratory<br>Advisor: Dr. Antonio Artés | Sep. 2016 - Dec. 2020 |
|                              | <b>Universidad Carlos III de Madrid</b><br>M.Sc. in Multimedia and Communications<br>M.Sc. in Telecommunication Engineering                           | Sep. 2014 - Jul. 2016 |
|                              | <b>Technical University of Denmark (DTU)</b><br>Erasmus Scholarship, Telecommunications Engineering                                                   | Jan. 2013 - Jul. 2013 |
|                              | <b>Universidad Carlos III de Madrid</b><br>B.Sc. in Telecommunication Technologies                                                                    | Sep. 2010 - Jul. 2014 |
|                              |                                                                                                                                                       |                       |
| TEACHING                     | <b>Universidad Carlos III de Madrid</b><br><i>Teaching Assistant</i> in Data Modelling                                                                | 1st Semester 2020     |
|                              | <i>Teaching Assistant</i> in Probabilistic Modelling and Inference                                                                                    | 1st Semester 2019     |
|                              | <i>Teaching Assistant</i> in Advanced Signal Processing                                                                                               | 1st Semester 2018     |
|                              | <i>Teaching Assistant</i> in Linear Systems                                                                                                           | 1st Semester 2016     |
| SUMMER SCHOOLS<br>AND OTHERS | Machine Learning Frontiers in Precision Medicine (MLFPM), Basel, Switzerland                                                                          | 2019                  |
|                              | Machine Learning Summer School (MLSS), Universidad Autónoma de Madrid                                                                                 | 2018                  |
|                              | Data Science Summer School (DS3), École Polytechnique, Paris                                                                                          | 2017                  |
|                              | Gaussian Process Summer School (GPSS), University of Sheffield                                                                                        | 2017                  |
|                              | Bayesian Optimization Course, Universidad Autónoma de Madrid                                                                                          | 2016                  |
| TALKS                        | University of Sheffield, Probabilistic Machine Learning Group                                                                                         | 2019                  |
|                              | University of Sheffield, Probabilistic Machine Learning Group                                                                                         | 2018                  |
|                              | Universidad Carlos III de Madrid, Signal Processing Group                                                                                             | 2017                  |

- REVIEWING International Conference on Learning Representations (ICLR) 2020, 2021  
 Neural Information Processing Systems (NeurIPS) 2019, 2020  
 Machine Learning for Health Workshop at NIPS 2017, 2018, 2019, 2020  
 Machine Learning, Springer 2019  
 Journal of Machine Learning Research (JMLR) 2018
- PUBLICATIONS L. Romero-Medrano, P. Moreno-Muñoz and A. Artés-Rodríguez.  
**Multinomial Sampling of Latent Variables for Hierarchical Change-point Detection.**  
*Submitted to the Journal of Signal Processing Systems, MLSP Special Issue, 2021.*
- P. Moreno-Muñoz, L. Romero-Medrano, A. Moreno, J. Herrera-López, E. Baca-García and A. Artés-Rodríguez.  
**Passive Detection of Behavioral Shifts for Suicide Attempt Prevention.**  
*In Workshop in Machine Learning for Mobile-Health (ML4MH)@ NeurIPS, 2020.*
- P. Moreno-Muñoz, A. Artés-Rodríguez and Mauricio A. Álvarez.  
**Recyclable Gaussian Processes.**  
*In arXiv:2010.02554, 2020.*
- L. Romero-Medrano, P. Moreno-Muñoz and A. Artés-Rodríguez.  
**Multinomial Sampling for Hierarchical Change-Point Detection.**  
*In IEEE Workshop in Machine Learning for Signal Processing (MLSP), 2020.*
- P. Moreno-Muñoz, D. Ramírez and A. Artés-Rodríguez.  
**Change-Point Detection in Hierarchical Circadian Models.**  
*In Pattern Recognition, Elsevier, 2020.*
- P. Moreno-Muñoz, D. Ramírez and A. Artés-Rodríguez.  
**Continual Learning for Infinite Hierarchical Change-Point Detection.**  
*In International Conf. on Acoustics, Speech and Signal Processing (ICASSP), 2020.*
- P. Moreno-Muñoz, A. Artés-Rodríguez and Mauricio A. Álvarez.  
**Continual Multi-task Gaussian Processes.**  
*In arXiv:1911.00002, 2019. (under review in JMLR)*
- P. Moreno-Muñoz, A. Artés-Rodríguez and Mauricio A. Álvarez.  
**Heterogeneous Multi-output Gaussian Process Prediction.**  
*In Advances in Neural Information Processing Systems 31 (NeurIPS), 2018. (spotlight)*
- S. Berrouguet, D. Ramírez, M. L. Barrigón Estévez, P. Moreno-Muñoz, R. Carmona Camacho, E. Baca-García and A. Artés-Rodríguez.  
**Combining continuous smartphone native sensors data capture and unsupervised data mining techniques for behavioral changes detection: The feasibility study of the Evidence Based Behavior (eB2) platform.**  
*In Journal of Medical Internet Research (JMIR) mHealth and uHealth, 2018.*
- DISSERTATIONS P. Moreno-Muñoz.  
**Probabilistic Models for Human Behavior Learning.**  
*Ph.D. Thesis Dissertation, Universidad Carlos III de Madrid. 2021*
- P. Moreno-Muñoz.  
**Change Point Detection in Behavioral High Dimensional Data.**  
*M.Sc. Thesis Dissertation (Multimedia and Communications). 2016*
- P. Moreno-Muñoz.  
**Anomalous Behavior Detection in Psychiatry.**  
*M.Sc. Thesis Dissertation (Telecommunication Engineering). 2016*

P. Moreno-Muñoz. **Photometric Redshift within crowded galaxy fields.**  
*ESA Project Report*. 2015

P. Moreno-Muñoz. **Statistical Learning Costs with Partial Labels.**  
*B.Sc. Thesis Dissertation* (spanish). 2014

OTHERS      J. J. Giraldo-Gutierrez, P. Moreno-Muñoz, M. A. Álvarez. **Natural Gradient Optimization for Improving Inference of Heterogeneous Multi-output Gaussian Process Models**, Advances in Data Science, Manchester, 2019 (poster)

P. Moreno-Muñoz, A. Artés-Rodríguez, M. A. Álvarez. **Heterogeneous Multi-task Gaussian Process Learning**, Advances in Data Science, Manchester, 2018 (poster)

GRANTS      FPI grant to fund doctoral studies. Ministry of Economy and Industry, Spain.      2016-2020

LANGUAGES      **Spanish** – Mother tongue, **English** – Advanced (TOEFL: 100/120), **French** – Basic

REFERENCES      Søren Hauberg, Professor at Technical University of Denmark (DTU), Copenhagen.  
Antonio Artés-Rodríguez, Professor at Universidad Carlos III de Madrid.  
Mauricio A. Álvarez, Senior Lecturer at University of Sheffield, UK.