

# Pedro Lara-Benítez

## Machine Learning Researcher

pedrolarabenitez@gmail.com  
07895 284760 London, UK  
Get latest version ↻

 [pedrolarben](#)

</> Python, Java, C, R  
Get dark theme

Research-focused professional with strong programming and mathematical skills in algebra and statistics. Hands-on experience providing valuable insights via data analytics and advanced data-driven methods. Proven success developing high quality code with detailed documentation to support reproducible research. Passionate about core machine learning principles, data sciences, deep learning, engineering, and research. Track record of conducting cutting-edge research on distributed artificial intelligence to develop state-of-the-art solutions for real-world problems.

### EXPERIENCE

- **Bank of America** London, UK  
*Quantitative Financial Analyst (AVP)* May 2022 - Present
  - Process Engineering team in Global Risk Analytics.  
*Quantitative Developer* May 2021 - May 2022
  - Contracted solely for Bank of America through TEKsystems on a 12 month contract.
- **University of Seville** Seville, Spain  
*Machine Learning Researcher* October 2018 - May 2021
  - Carry out experiments regarding deep learning, interpret results, and produce a written paper with conclusions of study.
  - Demonstrate expertise in the state-of-art techniques of the field.
  - Reviewed and published research papers in top-tier peer-reviewed journals and international conferences.

**Technologies:** python, tensorflow, keras, pytorch, numpy, sci-kit, matplotlib, latex, AWS.  
**Theory:** Deep Learning, Time series forecasting, Online learning, Data stream, and Computer vision.
- **Additional Experience** Seville, Spain  
*Freelance Software Developer* 2017 - 2019
  - Android App for MSIG Smart Management and web information system for BBA Medical Centre.

### TECHNICAL PROFICIENCIES

- **Python:** keras, tensorflow, pytorch, numpy, xgboost, sci-kit, pandas, river, matplotlib, flask ...
- **Other technologies:** AWS, azure, git, docker, databases, linux ...
- **Machine Learning:** CNN, RNN, Transformers, deep learning, time series, online learning, object detection ...

### EDUCATION

- **University of Seville** Seville, Spain  
*PhD in Computer Science - Machine Learning* Sept. 2019 – July 2022
  - Researched about data science, machine learning and artificial intelligence. Mainly focused on deep learning, time series analysis, online learning and object detection.

**Thesis:** Online Streaming Time Series Forecasting with Deep Learning.
- **University of Seville** Seville, Spain  
*M.Sc in Software Engineering: Cloud, Data Science & IT Service Management - 9.26/10* Sept. 2018 – Jun. 2019
  - Took selective courses on: Data Engineering, Machine Learning, Data visualisation techniques, Analysis of unstructured information, Big Data, Data Science.
  - (Thesis title) Asynchronous framework for the application of Deep Learning to streaming data.
- **Middlesex University** London, UK  
*[Erasmus year abroad] B.Sc in Computer Science* Sept. 2017 – Jun. 2018

- Took selective courses on: Open Source Software, Quantum Information Theory and Artificial Intelligence.


## • University of Seville

Seville, Spain

*B.Sc in Computer Science - Software Engineering - 8.55/10*

*Sept. 2014 – Jun. 2018*

- Took courses such as: Statistics, Analysis and Design of Data structures and Algorithms, or Artificial Intelligence.
- (Thesis title) Biomedical data analysis with deep learning.

 *Following sections items are clickable for references.*

## RESEARCH PUBLICATIONS

- Lara-Benítez, P., Carranza-García, M., Luna-Romera, J. M., and Riquelme, J. C. "**Short-Term Solar Irradiance Forecasting in Streaming with Deep Learning.**" Under review in *Neurocomputing*, May 2022.
- Lara-Benítez, P., Carranza-García, M., Gutiérrez-Avilés, D., and Riquelme, J. C. "**Data streams classification using deep learning under different speeds and drifts.**" *Logic Journal of the IGPL*, DOI:10.1093/jigpal/jzac033, Feb 2022.
- Lara-Benítez, P., Gallego-Ledesma, L., Carranza-García, M., and Luna-Romera, J. M. "**Evaluation of the Transformer Architecture for Univariate Time Series Forecasting.**" XIX Conference of the Spanish Association for Artificial Intelligence (CAEPIA), pp. 106-115, Springer, DOI:10.1007/978-3-030-85713-4\_11, May 2021.
- Carranza-García, M., Lara-Benítez, P., and Riquelme, J. C. "**Feature selection on spatio-temporal data for solar irradiance forecasting.**" 16<sup>th</sup> International Conference on Soft Computing Models in Industrial and Environmental Applications (SOCO 21), pp. 654-664, Springer, DOI:10.1007/978-3-030-87869-6\_62 May 2021.
- Carranza-García, M., Lara-Benítez, P., García-Gutiérrez, J., and Riquelme, J. C. "**Enhancing Object Detection in Autonomous Vehicles by Optimizing Anchor Generation and Addressing Class Imbalance.**" *Neurocomputing*, vol 449, p. 229-244, DOI:10.1016/j.neucom.2021.04.001, Apr 2021.
- Lara-Benítez, P., Carranza-García, M., and Riquelme, J. C. "**An Experimental Review on Deep Learning Architectures for Time Series Forecasting.**" *International Journal of Neural Systems*, vol. 31, no 03. p. 2130001, DOI:10.1142/S0129065721300011, Feb 2021.
- Carranza-García, M., Torres-Mateo, J., Lara-Benítez, P., and García-Gutiérrez, J. "**On the performance of one-stage and two-stage object detectors in autonomous vehicles using camera data.**" *Remote Sensing*, vol. 13, no 1, p. 89, DOI:10.3390/rs13010089, Nov 2020.
- Lara-Benítez, P., Carranza-García, M., Luna-Romera, J. M., Riquelme, J. C. "**Temporal Convolutional Networks Applied to Energy-Related Time Series Forecasting.**" *Applied Sciences*, vol. 10, pp 2322, DOI:10.3390/app10072322, March 2020.
- Lara-Benítez, P., Carranza-García, M., García-Gutiérrez, J., and Riquelme, J. C. "**Asynchronous dual-pipeline deep learning framework for online data stream classification.**" *Integrated Computer-Aided Engineering*, vol. 27, no. 2, pp. 101-119, DOI:10.3233/ICA-200617, Feb 2020.

## PERSONAL PROJECTS

- ADLStream: A python open source library for online learning with Deep Learning models.
- Contribution to TensorFlow Addons with Echo State Network (ESN) implementation.

*Not clickable anymore.*

## AWARDS

- **Winner of "Atmira Stock Prediction" challenge in the UniversityHack 2021 Datathon, the largest data analysis competition in Spain.** 2021  
*Cajamar Data Lab*
- **Selected as one of the top 30 computer-science pre-doctoral student nationwide for a 4-year research fellowship (FPU).** 2020  
*Ministry of Science, Innovation and Universities; Government of Spain.*
- **Winner of OpenWebinars' Prize and 2<sup>nd</sup> Prize in Start-up Hackathon "Hack for good".** 2017  
*Think Big, Fundación Telefónica*
- **Finalist Circular Economy Start-up contest.** 2016  
*GO APP! by Google*
- **1<sup>st</sup> Prize in Code Competition "Everis Codefest Sevilla".** 2016  
*Everis*

## LANGUAGES

- **Spanish** (Native), **English** (Advance C1), **Italian** (Basic B1)