

Data Scientist / Research Fellow at IARAI

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EXPERIENCE

Associate Pre-doctoral Research Fellow

Institute of Advanced Research in Artificial Intelligence - IARAI

📅 Feb 2020 - Present · +1 yrs

📍 Vienna, Austria / remote

Deep Learning for Spatio-Temporal Data: Video Prediction, and Datasets and Metrics design. Data Fusion (Multimodal & Multiresolution), Transfer / Few-Shot Learning, and Extreme Events. **Co-organizer of:**

- The Weather4cast competition @IEEE Big Data Cup 2021
- The Traffic4cast competition @NeurIPS 2020 and 2021
- 1st Workshop on Complex Data Challenges in Earth Observation @CIKM 2021

Machine Learning Consultant & Data Scientist

SEAT, S.A.

📅 Sep 2017 - Sep 2020 · 3 yrs

📍 Barcelona, Spain

Leading Machine Learning for future urban mobility:

- Mobility Advisor (presented in MWC 19 together with IBM).
- Socially Responsible Navigation (presented in SCEWC 18 together with Waze and the city council of Barcelona).

Graduate Research Fellowship

University of Barcelona - CVUB group

📅 Sep 2016 - Jul 2017 · 11 mos

📍 Barcelona, Spain

Explainable deep learning for the automatic recognition of lifestyle patterns (time spent eating, socializing, and seated) from wearable cameras.

BI Consultant

Indra Sistemas, S.A.

📅 May 2014 - Feb 2016 · 1 yr 10 mos

📍 Barcelona, Spain

Exploitation of Data Warehouse Commercial Segurcaixa, Vidacaixa.

HONORS AWARDS



NeurIPS2019 Workshop: Outstanding Contribution

Traffic4cast competition by the Institute of Advanced Research in Artificial Intelligence (IARAI) and HERE Technologies.



Climate Change Challenge 2019: 3th position

Organized by the University of Barcelona, ISGlobal, and Ajuntament de Barcelona: Modeling the weather in the city of Barcelona.



Big Data & AI Congress Barcelona 2018: Best Master Thesis

We analyzed first-person stories automatically by means of ego-centric pictures acquired with wearable cameras using AI.



DKV Seguros Health4Good 2016: Ideas Contest for Startups

Second prize: an App that can create nutrition diaries automatically from only pictures, also proposing healthy eating habits.

EDUCATION

Ph.D. in Artificial Intelligence

Polytechnic University of Catalonia

📅 2018 - 2023

📍 Barcelona, Spain

Deep learning for Spatio-temporal data with applications to mobility and weather forecasting

Deep Learning Indaba 2019

Kenyatta University - Summer School

📅 Summer 2019

📍 Nairobi, Kenya

M.Sc. in Fundamental Principles of Data Science

University of Barcelona

📅 Sep 2016 - Jun 2017

📍 Barcelona, Spain

Double B.Sc. in Computer Engineering and Mathematics

University of Barcelona

📅 Sep 2010 - Jan 2016

📍 Barcelona, Spain

University of Groningen - Erasmus

📅 Feb 2016 - Jul 2016

📍 Groningen, Netherlands

B.BA. in Business Administration and Management

University of Barcelona

📅 Sep 2008 - Jun 2010

📍 Barcelona, Spain

I finished a 3 years degree in only 2

TEACHING

Teaching Assistant

Pompeu Fabra University

📅 Sep 2018 - Feb 2021

📍 Barcelona, Spain

Intro to Programming: 1st-year / Python.

University of Barcelona

📅 Jan 2017 - Sep 2017






📍 Barcelona, Spain

- Data Structures: 1st-year / C++.
- Operating systems I: 2nd-year / C.

PUBLICATIONS

- Gruca, Aleksandra et al. (2021). "CDCEO 21 - First Workshop on Complex Data Challenges in Earth Observation". In: 30th ACM International Conference on Information and Knowledge Management (CIKM 21). DOI: <https://doi.org/10.1145/3459637.3482044>.
- Kopp, Michael et al. (2021). "Traffic4cast at NeurIPS 2020 - yet more on the unreasonable effectiveness of gridded geo-spatial processes". In: NeurIPS 2020 Competition and Demonstration Track, Proceedings of Machine Learning Research 133. Ed. by Hugo Jair Escalante and Katja Hofmann, pp. 325–343. URL: <https://proceedings.mlr.press/v133/kopp21a.html>.
- Herruzo, Pedro and Josep L. Larriba-Pey (2020). "Recurrent Autoencoder with Skip Connections and Exogenous Variables for Traffic Forecasting". In: NeurIPS 2019 Competition and Demonstration Track, Proceedings of Machine Learning Research 123. Ed. by Hugo Jair Escalante and Raia Hadsell, pp. 47–55. URL: <http://proceedings.mlr.press/v123/herruzo20a.html>.
- Kreil, David P et al. (2020). "The surprising efficiency of framing geo-spatial time series forecasting as a video prediction task – Insights from the IARAI t4c Competition at NeurIPS 2019". In: NeurIPS 2019 Competition and Demonstration Track, Proceedings of Machine Learning Research 123. Ed. by Hugo Jair Escalante and Raia Hadsell, pp. 232–241. URL: <http://proceedings.mlr.press/v123/kreil20a.html>.
- Herruzo, Pedro et al. (2019). "Towards Objective Description of Eating, Socializing and Sedentary Lifestyle Patterns in Egocentric Images". In: Workshop on Applications of Egocentric Vision (EgoApp'19), British Machine Vision Conference (BMVC) 2019. DOI: DOI: <https://dx.doi.org/10.5244/C.33.348>.
- – (2017). "Analyzing First-Person Stories Based on Socializing, Eating and Sedentary Patterns". In: Lecture Notes in Computer Science 10590, pp. 109–119. URL: <https://arxiv.org/pdf/1707.07863.pdf>.
- Herruzo, P., M. Bolaños, and P. Radeva (2016). "Can a CNN recognize Catalan diet?" In: *AIP Conference Proceedings* 1773, p. 020002. URL: <https://aip.scitation.org/doi/abs/10.1063/1.4964956>.

SELECTED TALKS

-  1 **The Weather4cast competition @IEEE Big Data Cup 2021.**
July 2021 · Virtual · ICML: Weather4cast Challenge @IARAI.
-  2 **Recurrent Autoencoder for Traffic Forecasting**
Dec 2019 · Vancouver, Canada · NeurIPS: Traffic4cast Challenge.
-  3 **Keeping Society Moving In A Connected World**
Feb 2019 · BCN · 4YFN / MWC w. Avichai Bakst @Waze.
-  4 **Socially Responsible Navigation**
Nov 2018 · BCN · SCEWC w. Luca de Meo (CEO @SEAT, S.A.).
-  5 **Big Data Talent Awards for the best master thesis**
Nov 2018 · Big Data & AI Congress Barcelona Congress.

¹<https://youtu.be/1DRZaiUlfUE>

²https://youtu.be/8y_Pwiy9C5M?t=2681

³<https://youtu.be/qERNVybdlZ8?t=628>

⁴<https://www.youtube.com/watch?v=Qo0mbgm5sHA>

⁵<https://www.youtube.com/watch?v=cqcCK3YHDVt&t=4m13s>

ABOUT ME

*"I am a **data scientist**, with a strong technical background in **machine learning**, **math** and **programming**, and the experience to bring these fields together to create useful **real-life applications**. Throughout my life, I have had the opportunity to develop proficient **public speaking**, teamwork, time management, and leadership skills. I take **pleasure in overcoming challenges** and being creative, dedicated, and proactive. I enjoy human relations and like getting involved in and helping to manage social activities."*

STRENGTHS

Communication Management
Social Skills Strategy

Machine Learning Computer Vision
Explainable AI Transformers
Graph Neural Networks
Recurrent Neural Networks Datasets
Metrics Spatio-Temporal Data
Weather Predictions
Urban Traffic Predictions
Caffe, Keras, PyTorch, TensorFlow

C C++ C# git Java Linux
LaTeX Matlab Python R SQL

CSS HTML Javascript

LANGUAGES

Catalan ●●●●●

English ●●●●●

Spanish ●●●●●