PEDRO HERRUZO SÁNCHEZ

Associate Pre-doctoral Research Fellow at IARAI Ph.D. Student in AI at the Polytechnic University of Catalonia

@ pedro.herruzo@iarai.ac.at in linkedin.com/in/pherrusa7

♀ San José, California♠ github.com/pherrusa7

% pherrusa7.github.io



EXPERIENCE

Associate Pre-doctoral Research Fellow Institute of Advanced Research in Artificial Intelligence - IARAI

♥ Vienna, Austria / remote

Deep Learning for Spatio-Temporal Data: Video Prediction, and **Datasets and Metrics Creation**. 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.**

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

♥ Barcelona, Spain

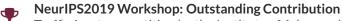
Explainable deep learning for the automatic recognition of lifestyle patterns (time spent eating, socializing, and seated) from wearable cameras.

BI Consultant

Indra Sistemas, S.A.

Exploitation of Data Warehouse Commercial Segurcaixa, Vidacaixa.

HONORS AWARDS



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 & Al Congress Barcelona 2018: Best Master Thesis
We analyzed first-person stories automatically by means of egocentric pictures acquired with wearable cameras using Al.

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 - 2022

♥ Barcelona, Spain

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

Deep Learning Indaba 2019 Kenyatta University - Summer School

♥ Nairobi, Kenya

M.Sc. in Fundamental Principles of Data Science

University of Barcelona

Double B.Sc. in Computer Engineering and Mathematics

University of Barcelona

University of Groningen - Erasmus

B.BA. in Business Administration and Management

University of Barcelona

TEACHING

Teaching Assistant Pompeu Fabra University

Sep 2018 - Feb 2021 ♥ Barcelona, SpainIntro to Programming: 1st-year / Python.

University of Barcelona

Ħ Jan 2017 - Sep 2017 ♥ Barcelona, Spain

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

PUBLICATIONS

Articles

- Kopp, Michael et al. (2021). "Traffic4cast at NeurIPS 2020 yet more on the unreasonable effectiveness of gridded geo-spatial processes". In: 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: 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 geospatial time series forecasting as a video prediction task – Insights from the IARAI 4c Competition at NeurIPS 2019". In: 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 Im-
- - (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.
- 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



The Weather4cast competition @IEEE Big Data Cup 2021. July 2021 · Virtual · ICML: Weather4cast Challenge @IARAI.



No. 2 Recurrent Autoencoder with Skip Connections and Exogenous **Variables for Traffic Forecasting**

Dec 2019 · Vancouver, Canada · NeurIPS: Traffic4cast Challenge.



Towards Objective Description of Eating, Socializing and Sedentary Lifestyle Patterns in Egocentric Images

Sep 2019 · Cardiff, UK · British Machine Vision Conference.



You 3 Keeping Society Moving In A Connected World

Feb 2019 · BCN · 4YFN / MWC w. Avichai Bakst @Waze.



You 4 Socially Responsible Navigation

Nov 2018 · BCN · SCEWC w. Luca de Meo (CEO @SEAT, S.A.).



Big Data Talent Awards for the best master thesis

Nov 2018 · Big Data & Al Congress Barcelona Congress.



SEAT S.A. from a Car Manufacturer to a Mobility provider

Nov 2017 · Barcelona · IOT Solutions World Congress.

ABOUT ME

"I am a technology enthusiast, 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 Spatio-Temporal Data Caffe, Keras, PyTorch C# Java Matlab Python **HTML** Javascript

LANGUAGES

Catalan	••••
English	••••
Spanish	••••

¹https://youtu.be/1DRZaiUlfUE

²https://youtu.be/8y_Pwiy9C5M?t=2681

³https://youtu.be/qERNVybd1Z8?t=628

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

⁵https://www.youtube.com/watch?v=cqcCK3YHDVk&t=4m13s