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

Vienna/Barcelona♥github.com/pherrusa7

% pherrusa7.github.io



EXPERIENCE

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

♥ Vienna, Austria

Deep Learning for Spatio-Temporal Data: Data Fusion (Multimodal & Multiresolution), Transfer Learning / Few-Shot Learning, and Modeling Sparse Events.

Machine Learning Consultant & Data Scientist **SEAT. S.A.**

 $\stackrel{\text{def}}{=}$ Sep 2017 - Sep 2020 · 3 yrs

Parcelona, 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).

Research Scholarship University of Barcelona

Parcelona, Spain

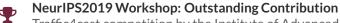
Graduate Student Researcher at the CVUB group (ub.edu/cvub/) under the supervision of professor Petia Radeva: Deep Learning methodologies applied to Egocentric images.

BI Consultant

Indra Sistemas, S.A.

Exploitation of Data Warehouse Commercial Segurcaixa, Vidacaixa: Gathering requirements, functional and technical definition, designing and developing ETL processes with SAP BO, PowerCenter, Oracle and Control-M.

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 Ajunta-

ment 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 and Smart Mobility

Polytechnic University of Catalonia

2017 - 2020

♀ Barcelona, Spain

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

Summer School · Deep Learning Indaba 2019

Kenyatta University

♥ Nairobi, Kenya

Strengthen African Machine Learning.

M.Sc. in Fundamental Principles of Data Science

University of Barcelona

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

TEACHING

Teaching Assistant Pompeu Fabra University

University of Barcelona

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

PUBLICATIONS

Conference Proceedings

- Herruzo, Pedro and Josep L. Larriba-Pey (2020). "Recurrent Autoencoder with Skip Connections and Exogenous Variables for Traffic Forecasting". In: Proceedings of the NeurIPS 2019 Competition and Demonstration Track. Ed. by Hugo Jair Escalante and Raia Hadsell. Vol. 123. Proceedings of Machine Learning Research. PMLR, 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 the NeurIPS 2019 Competition and Demonstration Track. Ed. by Hugo Jair Escalante and Raia Hadsell. Vol. 123. Proceedings of Machine Learning Research. PMLR, 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: EgoApp Workshop, British Machine Vision Conference (BMVC) 2019.
- - (2017). "Analyzing First-Person Stories Based on Socializing, Eating and Sedentary Patterns". In: ICIAP Workshops. Vol. 10590. Lecture Notes in Computer Science. Springer, pp. 109–119. URL: https:// arxiv.org/pdf/1707.07863.pdf.

Journal Articles

 Herruzo, P., M. Bolaños, and P. Radeva (2016). "Can a CNN recognize Catalan diet?" In: AIP Conference Proceedings 1773.1, p. 020002. DOI: 10.1063/1.4964956.eprint: https://aip.scitation.org/doi/ pdf/10.1063/1.4964956.URL: https://aip.scitation.org/doi/ abs/10.1063/1.4964956.

TALKS



Recurrent Autoencoder with Skip Connections and Exogenous Variables for Traffic Forecasting

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



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

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



You 2 Keeping Society Moving In A Connected World

Feb 2019 · Barcelona · 4YFN, side event of the Mobile World Congress with Avichai Bakst, Director of Business Development at Waze.



You 3 Socially Responsible Navigation

Nov 2018 · Barcelona · Smart City Expo World Congress, with Luca de Meo (presindent of SEAT, S.A.), and Jordi Caus (head of future urban concepts).



You 4 Big Data Talent Awards for the best master thesis

Nov 2018 · Big Data & Al Congress Barcelona Congress, with Laura Portell and Alberto Soto.

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



¹https://youtu.be/8y_Pwiy9C5M?t=2681

²https://youtu.be/qERNVybd1Z8?t=628

³https://www.youtube.com/watch?v=Qo0mbgm5sHA

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



Barcelona towards a data-driven City: When data is the key infrastructure

Oct 2018 · Barcelona · Open Data Barcelona (round-table).



SEAT S.A. from a Car Manufacturer to a Mobility provider Nov 2017 · Barcelona · IOT Solutions World Congress, with Josep L. Larriba-Pey (Co Founder of Sparsity Technologies).