

# Oscar Llorente Gonzalez

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## EXPERIENCE

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### Senior Data Scientist, Ericsson

Data Scientist at Ericsson Cognitive Network Solutions (JS6):

Madrid, Spain  
January 2024 — Present

- Top Performance Award (TPC), most prestigious recognition at Ericsson.
- Member of the Data Science Board, a group of experts who manage Machine Learning in a +300 people organization.
- Head of Geometric Artificial Intelligence (GAI) Lab.
- Founder of Ericsson Cognitive Labs.

### Adjunct Professor, Comillas Pontifical University (ICAI)

Bachelor of Engineering, Mathematical Engineering & Artificial Intelligence (iMAT):

Madrid, Spain  
January 2024 — Present

- Deep Learning, Theory & Lab Professor.
- Computer Vision II, Theory & Lab Professor.
- Natural Language Processing (NLP), Lab Professor.

### Experienced Data Scientist, Ericsson

Data Scientist at Ericsson Cognitive Network Solutions (JS5):

Madrid, Spain  
June 2023 — Dec 2023

- Machine Learning Lead of the Uplink Optimizer 4G and 5G, telecommunications network optimizer that improves the uplink interference with Graph Neural Networks.
- Creation of an internal library to handle datasets from S3 bucket and AWS based in Boto3.
- PyTorch and optimization expert in the ML organization.

### Data Scientist, Ericsson

Data Scientist at Ericsson Cognitive Network Solutions (JS4):

Madrid, Spain  
June 2022 — May 2023

- Data Scientist in Uplink Optimizer, telecommunications network optimizer that improves the uplink interference with Graph Neural Networks.

## EDUCATION

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### Comillas Pontifical University (ICAI), Madrid, Spain

Doctor of Philosophy (PhD), Artificial Intelligence

February 2025 — Present

- Thesis: Explainability in Graph Neural Networks.

### University Carlos III of Madrid (UC3M), Madrid, Spain

Master of Science, Artificial Intelligence

September 2022 — September 2024

GPA: 8.43/10

- Thesis: Bayesian Graph Neural Networks: Confidence Intervals.
- Awards: Nova 111 Student List (best 111 students of Spain).

### Comillas Pontifical University (ICAI), Madrid, Spain

Double Bachelor of Engineering, Telecommunications Engineering & Business Analytics

September 2017 — June 2022

GPA: 8.28/10

- Thesis: Development of visualization and interpretation tools for convolutional neural networks.
- Thesis: Electricity Price Forecasting with Transformers.

### University of Texas at Austin (UT), Austin, US

Exchange program, Computer Science

September 2020 — May 2021

GPA: 3.82/4

- Awards: Fall and Spring Honor List.

## SKILLS

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Python, PyTorch, Tensorflow, Jax, Numpy, Polars, Pandas, Tensorboard, MLFlow, SQL, Docker, Jenkins, Git, MLOps, Problem-solving, Teamwork, Leadership

## Talks

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1. Talk at PyTorch Conference 2023: Uplink Interference Optimizer, How to Optimize a Cellular Network in a Single Shot with GNNs.
2. Poster at Stanford Workshop on Graph Learning: Solutions and Challenges to optimize a cellular network with Graph Neural Networks.
3. Talk at Learning on Graphs Conference 2023 (Madrid): Bayesian Graph Neural Networks, how to optimize a cellular network and provide confidence to our customers.

## PUBLICATIONS

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1. Llorente, O. et al. (2024). Method for Parallelizing Neighbor Explainability in Graph Neural Networks Through Graph Partitioning. P112165EP01, European patent, filed.
2. Llorente, O. et al. (2024). Explainability for node-level predictions generated by a graph neural network. P111813EP01, European patent, filed.
3. Llorente, O. et al. (2024). Methods and apparatuses for using a graph neural networks to determine recommended configurations for a plurality of nodes. P109724WO01, Patent Cooperation Treaty, filed.
4. Llorente, O. et al. (2024). Methods and apparatuses for using a graph neural networks to determine recommended configurations for a plurality of nodes. P109724WO01, Patent Cooperation Treaty, filed.
5. Llorente, O. et al. (2024). Evaluating Neighbor Explainability for Graph Neural Networks. In: Longo, L., Lapuschkin, S., Seifert, C. (eds) Explainable Artificial Intelligence. xAI 2024. Communications in Computer and Information Science, vol 2153. Springer, Cham. [https://doi.org/10.1007/978-3-031-63787-2\\_20](https://doi.org/10.1007/978-3-031-63787-2_20).
6. Llorente, O., & Portela, J. (2024). A Transformer approach for Electricity Price Forecasting. arXiv preprint arXiv:2403.16108.
7. Llorente, O., Boal, J., & Sánchez-Úbeda, E. F. (2023). A matter of attitude: Focusing on positive and active gradients to boost saliency maps. arXiv preprint arXiv:2309.12913.