Guillermo Ortiz-Jiménez

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Summary

I am a research scientist at Google DeepMind where I conduct research and develop tools to make AI models more reliable, fair, safe and universally useful. I am also interested in the science of deep learning, with a focus on understanding how editions in the weights affect the behavior of AI systems. I obtained my PhD at EPFL under the supervision of Pascal Frossard where I focused on the empirical understanding of deep learning and explained different generalization and robustness prooperties of neural networks,

Education

Nov 2018 - Oct. 2023 — **PhD. Machine Learning** (*ELLIS PhD*)
Ecole Polytechnique Fédérale de Lausanne, EPFL (*Switzerland*)

Sep 2016 - Aug 2018 — **MSc. Electrical Engineering** (*Best graduate*)
Delft University of Technology, TU Delft (*Netherlands*)

Sep 2011 - Jun 2015 — **BSc. Telecommunications Engineering** (*Best graduate*)
Universidad Politécnica de Madrid, UPM (*Spain*)

Professional experience

Research Scientist at Google DeepMind

Jan 2024 - ongoing *London, United Kingdom*

I work in responsible AI, developing tools to make models more reliable, fair, safe and universally useful.

Doctoral assistant at EPFL

Nov 2018 - Oct 2023 *Lausanne, Switzerland*

Studied the inductive bias of deep learning and the structure of its functional landscape. My research provided insights to improve out-of-distribution generalization, adversarial defenses, and improving the downstream performance of large pre-trained networks.

Research Intern at Google Research

Jul 2022 - Oct 2022 *Zürich, Switzerland*

Conducted research on the ability of privileged information in improving the resilience of deep neural networks to label noise.

Visiting researcher at University of Oxford

Jan 2022 - Jun 2022 *Oxford, United Kingdom*

Conducted research on the robustness of neural networks as part of the ELLIS PhD program under the supervision of Prof. Philip Torr.

Software skills

DL frameworks: PyTorch, JAX, Tensorflow
Languages: Python, C, Matlab, Javascript, Java
Misc: Unix, git, docker, vim

Languages

Spanish: ●●●●●
German: ●●●○○
Dutch: ●○○○○
English: ●●●●◐
French: ●●●○○

Grants & Awards

2023 **TMLR expert reviewer** at TMLR 2023
2022 **Best reviewer award** at ICLR 2022
2022 **ELLIS Society PhD programme**
2021 **Best reviewer award** at NeurIPS 2021
2018 **National Award for Excellence in Academic Performance** by Government of Spain
2018 **Best graduate** by TU Delft (~1000 students)
2016 **"La Caixa" Postgraduate Fellowship** by La Caixa Foundation (~45,000$)
2015 **Best graduate** by Universidad Politecnica de Madrid (~800 students)
Other competitive grants (~18,000$)

PhD contributions

- **GOJ***, A. Favero*, and P. Frossard. **Task Arithmetic in the Tangent Space: Improved Editing of Pre-trained Models.** *NeurIPS* 2023 (Oral)
- **GOJ***, P. de Jorge*, A. Sanyal, A. Bibi, P. Dokania, P. Frossard, G. Rogez and P. Torr. **Catastrophic Overfitting Can Be Induced with Discriminative Non-robust Features.** *TMLR* 2023
- **GOJ***, M. Collier*, A. Nawalgaria, A. d'Amour, J. Berent, R. Jenatton and E. Kokiopoulou. **When Does Privileged Information Explain Away Label Noise?** *ICML* 2023.
- G. Yüce*, **GOJ***, S.M. Moosavi-Dezfooli and P. Frossard. **A Structured Dictionary Perspective on Implicit Neural Representations.** *CVPR* 2022.
- A. Modas*, R. Rade*, **GOJ**, S.M. Moosavi-Dezfooli and P. Frossard. **PRIME: A Few Primitives Can Boost Robustness to Common Corruptions.** *ECCV* 2022.
- **GOJ**, S.M. Moosavi-Dezfooli and P. Frossard. **What Can Linearized Neural Networks Actually Say About Generalization?** *NeurIPS* 2021.
- **GOJ**, A. Modas, S.M. Moosavi-Dezfooli and P. Frossard. **Optimism in the Face of Adversity: Understanding and Improving Deep Learning through Adversarial Robustness.** *Proc. of the IEEE*. 2021.
- **GOJ***, A. Modas*, S.M. Moosavi-Dezfooli and P. Frossard. **Neural Anisotropy Directions.** *NeurIPS* 2020.
- **GOJ***, A. Modas*, S.M. Moosavi-Dezfooli and P. Frossard. **Hold Me tight! Influence of Discriminative Features on Deep Network Boundaries.** *NeurIPS* 2020.
- **GOJ**, M. El Gheche, E. Simou, H.P. Maretic and P. Frossard. **Forward-backward splitting for optimal transport based problems.** *ICASSP* 2020.
- C. Vignac, **GOJ** and P. Frossard. **On the choice of graph neural network architectures.** *ICASSP* 2020

Teaching experience

- Supervision of many student projects and thesis.
- Machine learning.
- Fundamentals of inference and learning.
- A network tour of data science.

Community service

Reviewer in NeurIPS, ICLR, ICML, CVPR, ICCV, ECCV, TMLR and IEEE TPAMI.

Personal interests

Climbing, running, hiking, skiing, cooking and photography.