Guillermo Ortiz-Jiménez

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About me

I am a PhD student at EPFL working under the supervision of Pascal Frossard. My research focuses on understanding deep learning by studying its inductive bias and how this affects its generalization and robustness properties.

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*)

Research experience

Doctoral assistant at EPFL

Nov 2018 - (October 2023) *Lausanne, Switzerland*

Studying the inductive bias of deep learning and how it affects its generalization and robustness properties. My research provides insights to improve out-of-distribution generalization, adversarial defenses, and to understand the role of architecture in deep learning and NTK theory.

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*

Cosupervision of my PhD by Prof. Philip Torr in the context of the ELLIS PhD program. Conducted research on the robustness of neural networks.

Research Intern at Philips Healthcare Research

Jul 2017 - Oct 2017 *Hamburg, Germany*

Research on deep learning algorithms for representation learning and medical image reconstruction of fetal ultrasounds and CT scans.

Software skills

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

Languages

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

Awards

2022 **Best reviewer award** at ICLR 2022
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$)
2015 **Best graduate** by Universidad Politecnica de Madrid (~800 students)
Other competitive grants (~18,000$)

Featured publications

- **GOJ***, A. Favero*, and P. Frossard. **Task arithmetic in the tangent space: Improved editing of pre-trained models.** *Under review* 2023.
- **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.** *Under review* 2023
- **GOJ***, M. Collier*, A. Nawalgaria, A. d'Amour, J. Berent, R. Jenatton and E. Kokioupoulou. **When does privileged information explain away label noise?** *ICML* 2023.
- A. Modas*, R. Rade*, **GOJ**, S.M. Moosavi-Dezfooli and P. Frossard. **PRIME: A few primitives can boost robustness to common corruptions.** *ECCV* 2022.
- G. Yüce*, **GOJ***, S.M. Moosavi-Dezfooli and P. Frossard. **A structured dictionary perspective on implicit neural representations**. *CVPR* 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**. *Proceedings 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.
- C. Vignac, **GOJ** and P. Frossard. **On the choice of graph neural network architectures.** *ICASSP* 2020
- **GOJ**, M. Coutino, S.P. Chepuri and G. Leus. **Sparse sampling for inverse problems with tensors.** *IEEE Transactions on Signal Processing*, 2019

Teaching experience

- Machine learning.
- Fundamentals of inference and learning.
- A network tour of data science.
- Computational optimal transport.

Community service

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

Personal interests

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