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About me

I am a research scientist at Google DeepMind. I obtained my PhD at EPFL under the supervision of Prof. Pascal Frossard and the co-supervision of Prof. Philip Torr in the context of the ELLIS PhD programme. I develop tools to make 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 AI behavior.

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: ●●●●● English: ●●●●●
German: ●●●○○ French: ●●●○○
Dutch: ●○○○○

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.