

Francesco Innocenti

Computational Neuroscience PhD student

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Education

- Sept 2021 - **PhD, Computational Neuroscience**, University of Sussex, UK.
2026
 - Working thesis: “Advancing the Theory of Biologically Inspired Learning Algorithms”
 - TA on *Fundamentals of Machine Learning* module
 - Curated an open-access repository of *Neuro-AI research papers* (★ 30)
- Jul-Aug 2021 **Deep Learning Summer School**, Neuromatch Academy.
 - Led a team research project showing that a deep predictive coding network (PredNet) modelled human fMRI responses to natural videos as well as VGG19 [Code].
- Sept 2018 - **B.Sc. Psychology with Cognitive Neuroscience**, Goldsmiths, University of London.
Jun 2021
 - First Class Honours
 - Thesis: “Modelling the Evolution of Visual Perception with Evolutionary Algorithms” [Code]

Experience

- Oct 2023 - **Applied Scientist Intern**, Amazon, Barcelona.
Apr 2024
 - Helped improve and evaluate a short-term forecast of Amazon packages delivered throughout Europe, contributing to an internal conference paper and \$MM savings in operational costs.
- Oct 2018 - **Research Assistant**, ART LAB.
Jun 2021
 - Helped develop and validate a neuropsychological test of face recognition (see publications)
 - Developed an open-access tutorial for *Visualising Psychological Data in Python*
- Jun-Aug 2020 **Research Intern**, TIMING, AWARENESS, AND SUGGESTION LAB.
 - Trained and tested machine learning classifiers to categorise the subjective experiences associated with different psychedelic drugs, based on psychometric data from 55 peer-reviewed studies

Skills

- Coding Python (highly experienced), SQL (experienced), \LaTeX (highly experienced), Julia (conversant), MATLAB (conversant), C# (basic)
- ML Libraries PyTorch, JAX, TensorFlow, scikit-learn
- Languages English (proficient), Italian (native), Spanish (conversant)

Papers

- [1] ***Innocenti, F.**, Singh, R., and Buckley, C. L. (2023). Understanding Predictive Coding as an Second-Order Trust-Region Method. *ICML Workshop on Localized Learning (LLW)*.
- [2] Jansari, A., Green, E., **Innocenti, F.**, Nardi, D., Belanova, E., and Davis, J. P. (2020). The Goldsmiths Unfamiliar Face Memory Test. *OSF Preprints*.

Awards

- *Best Paper Award at the ICML 2023 Workshop on Localized Learning
- British Psychological Society (BPS) Award for highest performance in undergraduate degree