

GUIOMAR PESCADOR BARRIOS

Statistical Machine Learning (StatML) PhD student

✉ Email | 🎓 Google Scholar | in LinkedIn | 🌐 Website | 🐙 GitHub

EDUCATION

PhD in Statistical Machine Learning, Imperial College London and University of Oxford, UK Exp. 2026

- Supervised by [Sarah Filippi](#) and [Mark van der Wilk](#) on the [StatML](#) programme. Funded by EPSRC.
- Research Focus: Developing variational learning methods for probabilistic models that adapt as learning progresses, with emphasis on adaptive model capacity, continual learning, and efficient training.

Master in Mathematics with Honours (First-class), University of Edinburgh, UK Sept. 2017 - June 2022

- Master Dissertation: Statistical Evaluation of Medical Tests. Under the supervision of [Vanda Inacio De Carvalho](#).
- Undergraduate Group Thesis: Adaptive Single Hidden Layers Perceptron. In collaboration with Jay Holley and Leah Sea. Under the supervision of [Benedict Leimkuhler](#).

ACADEMIC PLACEMENTS

RIKEN Center for Advanced Intelligence Project

Tokyo, Japan. April to July 2025

Visiting researcher in the Adaptive Bayesian Intelligence Team led by Dr. [Emtiyaz Khan](#); worked on efficient variational learning and optimisation methods.

RESEARCH

- [1] Pescador-Barrios, G., Filippi, S., and van der Wilk, M. [Adjusting Model Size in Continual Gaussian Processes: How Big is Big Enough?](#) In *Proceedings of the 42nd International Conference on Machine Learning (2025)*. **Spotlight**.

EVIDENCE OF ESTEEM

Invited Talks

ISBA World Meeting: Invited talk at the session “Calibrated Bayes: approximate inference, misspecified models, and their interaction”. July 2026

Breaking Topics in AI Conference: Invited talk about ICML work. [\[Link\]](#) December 2025

NeurIPS 2024 Bayesian Decision-making and Uncertainty Workshop: Lightning talk on accepted work on adaptive model size for continual Gaussian Processes. December 2024

Oxford-Man Institute: “Adjusting Model Size in Continual Gaussian Processes: How Big is Big Enough?”, invited speaker at [F-StatML Seminar Series](#). December 2024

Research Seminars

Bayes Duality Workshop: Invitation-only workshop on the development of AI that learns adaptively, robustly, and continuously. [\[Link\]](#) Tokyo, June 2025

Dagstuhl Seminar: Invitation-only workshop on “Rethinking the Role of Bayesianism in the Age of Modern AI”. Dagstuhl, November 2024

Amazon StatML Workshop: Collaboration between Amazon and StatML CDT where research from both sides was presented in different ways, including lectures, tutorials and poster presentations. [\[Link\]](#) Berlin, April 2024

Oral Presentations

StatML seminar series, Imperial College London: Continual Learning with Sparse GPs. April 2024

StatML seminar series, University of Oxford: Dimensionality Reduction with Side Information. March 2023

EXPERIENCE

Creator Fund, *Venture Fellow*

London, UK. Oct. 2023-2024

Reviewed deep-tech ventures from academic founders, focusing on technical diligence and research-to-market translation.

Amazon, *Software Developer Intern*

Madrid, Spain. 2020-2021

- **Summer 2021:** I developed a new feature for an internal web application used by developers and product managers within Amazon Business. The project was delivered ahead of time, and I was able to start another extension of the app. Offered a full-time position.
- **Summer 2020:** I designed and created a new buying policy for Amazon Business. The project was delivered ahead of the deadline and the buying policy is available worldwide. Offered a full-time position.

Addlink Scientific Software, *Intern*

Remote & Spain. May to November 2019

Created educational materials for Maple 2019 software, including webinars and articles for both basic and advanced users. Delivered a one-day course on Maple 2019 at the Technical University of Madrid for higher education.

Morgan Stanley

Glasgow. April 2019

Technology Insight Programme.

Spanish National Institute of Mathematical Sciences, *Research Intern*

Madrid, Spain. June 2018

Evaluation of the performance of Machine Learning classification algorithms in malware detection. Attendant at JAE School of Mathematics: “Public Key Cryptography: an introduction” and “An introduction to Mathematical Neuroscience”.

TEACHING

Graduate Teaching Assistant, Department of Mathematics, Imperial College London

2023 - 2024

- Postgraduate modules: Machine Learning, Computational Statistics.
- Undergraduate modules: Probability and Statistics (Year 1).

Tutorial Lead, Imperial Business School

- Summer School on Machine Learning, Applied Statistics, and Quantitative Finance. 2024
- Summer School on Business Analytics, Machine Learning and Applied Statistics. 2023

AWARDS

G-Research Early-Career Research Grant

July 2025

Received funding to attend ICML 2025 in Vancouver and present my research as part of the July 2025 cohort of grant recipients.

Nova 111 Student Award 2024

March 2024

Selected as one of top 10 highest-potential students under 25 in the Mathematics, Data Analytics, and Physics category in Spain.

EPSRC Studentship

October 2022 to October 2026

Engineering and Physical Sciences Research Council (EPSRC) Studentship for PhD studies.

TECHNICAL SKILLS

Programming: Python, R, Java, C, SQL, Datapath.

Software & Tools: VS Code, RStudio, Maple, Matlab, IntelliJ IDEA, High Performance Computing.

Libraries: TensorFlow, PyTorch, Keras, GPflow, GPytorch, SciPy, NumPy, Pandas, scikit-learn, Matplotlib, Seaborn.

Languages: Spanish (Native), French (Bilingual), English (Proficient).

PHD TRAINING

Modules: Bayesian Modelling and Computation, Statistical Machine Learning, Modern Statistical Theory, Online learning, Bandits, and Reinforcement learning, Causality, ML Finance.

Technical Training: Foundations of GPU Computing, Good Software Engineering Practice, Responsible Innovation, Introduction to HPC, Parallel Programs on HPC Cluster.

OTHERS

Leadership

- Co-founder of [PhD Espresso](#), a peer-support and learning network for PhD students. 2025
- Student representative StatML CDT. 2022-2025
- Amazon Campus Ambassador for the University of Edinburgh. 2020-2021
- Programme Representative of Year 5 Mathematics University of Edinburgh 2021-2022
- Secretary of External Relations of the Spanish Society at the UoE. Consulate liaison. 2018-2020

Outreach

- Supervisor of projects for global programme [Maths en Jeans](#). 2025-2026
- Oxford Mathematics Festival. 2023
- STEM Ambassador Scotland. 2020-2021