

Cristiana Diaconu

+447413388077 | cdd43@cam.ac.uk | [website](#) | [in cristiana-diaconu](#) | Cambridge, UK

EDUCATION

Machine Learning Group, University of Cambridge 2023 - Present

PhD in Machine Learning - Probabilistic modelling for spatio-temporal data

Supervised by [Prof. Richard Turner](#), Advised by [Prof. José Miguel Hernández Lobato](#)

MEng in Information Engineering and Bioengineering, University of Cambridge 2019-2021

- Part IIB: **Ranked 1st overall** (Distinction 83%)
- Part IIA: First Class Honours (89%)

BA Hons Natural Sciences - Physics and Materials Science 2017-2019

Part IB *First Class Honours (I)* - 79%, Part IA *Upper Second Class (II.1)* - 69%

PUBLICATIONS AND SELECT PREPRINTS

Probabilistic Retrofitting of Learned Simulators

Under Review, 2026

Cristiana Diaconu, Miles Cranmer, Richard E. Turner, Tanya Marwah, Payel Mukhopadhyay

Incremental Transformer Neural Processes

Under Review, 2026

Philip Mortimer*, Cristiana Diaconu*, Tommy Roschussen, Bruno Mlodozieniec, Richard E. Turner

Otter Weather: Highly Skillful Medium-Range Weather Forecasting on a Single GPU

AI&PDE, ICLR 2026 Workshop on AI and Partial Differential Equations

Jonas Scholz*, Cristiana Diaconu*, Aliaksandra Shysheya, Stratis Markou, Richard E. Turner

Estimating Interventional Distributions with Uncertain Causal Graphs through Meta-Learning

The Thirty-Ninth Annual Conference on Neural Information Processing Systems (NeurIPS), 2025

Anish Dhir*, Cristiana Diaconu*, Valentinian Mihai Lungu, Richard E. Turner, Mark van der Wilk

Gridded Transformer Neural Processes for Large Unstructured Spatio-Temporal Data

Spotlight poster (top 2.6%) at the International Conference on Machine Learning (ICML), 2025

Matthew Ashman*, Cristiana Diaconu*, Eric Langezaal*, Adrian Weller, Richard E. Turner

On Conditional Diffusion Models for PDE Simulations

The Thirty-Eighth Annual Conference on Neural Information Processing Systems (NeurIPS), 2024

Aliaksandra Shysheya*, Cristiana Diaconu*, Federico Bergamin*, Paris Perdikaris, José Miguel Hernández-Lobato, Richard E. Turner, Emile Mathieu

Approximately Equivariant Neural Processes

The Thirty-eighth Annual Conference on Neural Information Processing Systems (NeurIPS), 2024

Matthew Ashman*, Cristiana Diaconu*, Adrian Weller, Wessel P. Bruinsma, Richard E. Turner

Translation Equivariant Transformer Neural Processes

International Conference on Machine Learning (ICML), 2024

Matthew Ashman, Cristiana Diaconu, Junhyuck Kim, Lakee Sivaraya, Stratis Markou, James Requeima, Wessel P. Bruinsma, Richard E. Turner

In-Context In-Context Learning with Transformer Neural Processes

Proceedings of the 6th Symposium on Advances in Approximate Bayesian Inference (AABI), 2024

Matthew Ashman*, Cristiana Diaconu*, Adrian Weller, Richard E. Turner

Denoising Diffusion Probabilistic Models in Six Simple Steps

Richard E. Turner, Cristiana Diaconu, Stratis Markou, Aliaksandra Shysheya, Andrew Y. K. Foond, Bruno Mlodozieniec

WORK EXPERIENCE

Research Intern at Polymathic AI 2025

- Developing a method to fine-tune a foundational deterministic PDE model into a probabilistic one.
- Improving the stability of long rollouts and investigating the transfer abilities of the large PDE foundation model developed by Polymathic AI.

Researcher Intern at Microsoft Research AI4Science 2025

- Improved the conditional generation abilities of a generative model for inorganic materials, and optimised diffusion model choices for improved performance.
- Integrated models into the existing codebase following best software engineering practices.

Data Scientist/Machine Learning Engineer at L2S2 2021 - 2023

- Analysed and developed machine learning models on big medical data sets (1M+ datapoints); examples include predicting the mortality risk of patients using Hospital Episode Statistics (HES) data, investigating the risk of deterioration of elderly people by analysing vital signs data.
- Developed an automatic pupil detection algorithm and an emergency department simulator using a discrete event simulator in **Python**.
- Worked on the data development of the National Emergency Care Data Set (ECDS) Max.

Data Analyst Summer Intern at Intropic 2020

- Performed an event study that analysed the impact of Passive Fund demand and supply, and proposed a simple long-short strategy based on the findings.
- Cleaned and processed the 4-year historical dataset on which the event study was performed; was responsible for the final version of the dataset that was shared with the clients.

ADDITIONAL PROJECTS

High quality IT system for emergency care in developing countries 2023-2024

- Contributed to an open-source, **Django**-based application that can be used to provide emergency care in clinics/hospitals with limited technological resources (e.g. from developing countries).

Cuff-less Blood Pressure Estimation 2020-2021

- Worked with a 2.4TB database to develop a combination of physical and machine learning-based models, with the aim to perform non-invasive cuff-less estimation of the arterial blood pressure.

ACADEMIC ACTIVITIES

Sponsorship Chair at the Symposium on Probabilistic Machine Learning (ProbML) 2026

Top Reviewer at NeurIPS 2025

Reviewer at NeurIPS, ICLR, ICML, UAI 2025

Guest Lecturer on Diffusion Models at the MPhil in Machine Learning and Machine Intelligence 2024

Admissions Interviewer for Undergraduate Engineering, Queens' College, Cambridge 2023, 2024, 2025

Project Supervisor, University of Cambridge 2023-Present

- Currently co-supervising the projects of two fourth-year Engineering students aiming to adapt neural processes to streaming data.
- Co-supervised three fourth-year Engineering students, and two students completing an MPhil in Machine Learning and Machine Intelligence in topic such as neural processes and diffusion models.

Undergraduate Supervisor, University of Cambridge 2023-Present

Lab Demonstrator for the Lego Mindstorms exercise, University of Cambridge 2023-2024

SCHOLARSHIPS AND AWARDS

Cambridge Trust Scholarship 2023-2027

Full scholarship for PhD in Machine Learning.

The Institution of Civil Engineers Baker Prize 2021

Awarded for the highest score in the combined order of merit (Ranked 1st) in Part IIB Engineering.

Queens' College Academic Prizes 2020-2021

- **The Ruth Hendry Prize & The James & Jean Bennett Prize** (2021): For distinction in Engineering.
- **Foundation Scholarship & The Prigmore Prize** (2020): For First Class performance.

Science Olympiads 2014-2017

Silver Medal at European Union Science Olympiad (2015); Multiple National Medals (Romania).

SKILLS

Computing - Python, MATLAB, PyTorch, OpenCV, Simpy, Django, LaTeX

Language - Romanian: Native, English: Fluent, Spanish: Advanced, German: Basic