

RICCARDO VALPERGA

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EDUCATION

University of Amsterdam

Ph.D. Student at the Informatics Institute

Amsterdam, The Netherlands

Sep 2021 – Sep 2025

- **PhD project: Physics-informed deep learning. Learning dynamics from observations and dynamical systems forecasting.**

Imperial College London

M.Sc. in Physics (Extended Research Programme)

London, UK

Sep 2019 – Sep 2021

Final GPA: 83%

- Final Grade: First Class Honours (88/100).
- **Thesis: Learning Reversible Dynamics. (Published at L4DC 2022).**

Università Degli Studi Di Torino

Bachelor in Physics

Turin, Italy

Sep 2016 – Jul 2019

Final GPA: 29.4/30

- Final Grade: 110/110 Cum Laude
- **Thesis: Simulating compression algorithms for the electromagnetic calorimeter (ECAL) in anticipation of the High-Luminosity upgrade of the LHC at CERN.**

EXPERIENCE

Research Intern

ServiceNow (Element AI)

Montreal, Canada

Aug 2024 – present

- Forecasting critical transitions in time-series using Transformer-based architectures and pre-trained LLMs.

Research Intern

INFN

Turin, Italy

May 2019 – Jul 2019

- Simulation of the lossless compression algorithms for the readout of the electromagnetic calorimeter (ECAL) at the CMS experiment in anticipation of the High-Luminosity upgrade of the LHC.

SKILLS

DL Frameworks: PyTorch (2019-present), JAX/Flax (2021-present), Tensorflow (2019-2021), Proficient with SLURM scheduler clusters.

Programming languages: Python (2016-present), Julia (2019-2021)

Languages: Italian (Native); English (C1); French (Beginner).

SELECTED PUBLICATIONS

- **Learning reversible symplectic dynamics**
R Valperga, K Webster, D Turaev, V Klein, J Lamb
L4DC, 2022 [Oral]
- **Ai-sampler: Adversarial learning of Markov kernels with involutive maps**
E Egorov*, R Valperga*, E Gavves
ICML, 2024
- **How to train Neural representations: a comprehensive study and benchmark**
S Papa, R Valperga, D Knigge, M Kofinas, P Lippe, JJ Sonke, E Gavves
CVPR, 2024
- **Space-Time Continuous PDE Forecasting using Equivariant Neural Fields**
D M Knigge*, D R Wessels*, R Valperga, Samuele Papa, J Sonke, E Gavves, E J Bekkers
NeurIPS, 2024
- [Complete list of publications](#)

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