RICCARDO VALPERGA

r.valperga@uva.nl | (+39) 340 7492968 | GitHub | X | Scholar

EDUCATION

University of Amsterdam — **Amsterdam, The Netherlands**
Ph.D. Student at the Informatics Institute — Sep 2021 – Sep 2025
- ***PhD project: Physics-informed deep learning. Learning dynamics from observations and dynamical systems forecasting.***

Imperial College London — **London, UK**
M.Sc. in Physics (Extended Research Programme) — 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 — **Turin, Italy**
Bachelor in Physics — 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 — **Montreal, Canada**
ServiceNow (Element AI) — Aug 2024 – present
- Time-series forecasting and causal discovery: predicting bifurcations in complex dynamical systems.

Research Intern — **Turin, Italy**
INFN — 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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