RICCARDO VALPERGA

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EDUCATION

University of Amsterdam, VISLAB — **Amsterdam, The Netherlands**
Ph.D. in Artificial Intelligence and Deep Learning — 2021-Present
- Supervisors: **Prof. Efstratios Gavves**
- My research focuses on the intersection of Dynamical Systems theory and Deep Learning

Imperial College London — **London, UK**
M.Sc. in Theoretical Physics — 2019-2021
- GPA: 88/100 (English grading system)
- Final Grade: First Class Honours

Università Degli Studi Di Torino — **Turin, Italy**
Bachelor in Physics — 2016-2019
- GPA: 29.4/30 (Italian grading system)
- Final Grade: 110/110 Cum Laude

PUBLICATIONS

- Learning reversible symplectic dynamics
  R Valperga, K Webster, D Turaev, V Klein, J Lamb
  Learning for Dynamics and Control Conference, 2022 **[Oral]**

- Learning Lie Group Symmetry Transformations with Neural Networks
  A Gabel, V Klein*, R Valperga*, J Lamb, K Webster R Quax, E Gavves*
  Proceedings of the 2nd Annual Workshop on Topology, Algebra, and Geometry in Machine Learning (TAG-ML) at the 40th International Conference on Machine Learning, 2023

- Neural Modulation Fields for Conditional Cone Beam Neural Tomography
  Samuele Papa, David M Knigge, Riccardo Valperga, Nikita Moriakov, Miltos Kofinas, Jan-Jakob Sonke, Efstratios Gavves
  1st workshop on Synergy of Scientific and Machine Learning Modeling, SynS & ML ICML, 2023

- Geometric Contrastive Learning
  Y Koishekenov, S Vadgama, R Valperga*, EJ Bekkers*
  Proceedings of the IEEE/CVF International Conference on Computer Vision, 206-215, 2023

- Data Augmentations in Deep Weight Spaces
  Aviv Shamsian, David W Zhang, Aviv Navon, Yan Zhang, Miltiadis Kofinas, Idan Achituve, Riccardo Valperga, Gertjan J Burghouts, Efstratios Gavves, Cees GM Snoek, Ethan Fetaya, Gal Chechik, Haggai Maron
  Symmetry and Geometry in Neural Representations Workshop, NeurIPS, 2023 **[Oral]**

PROJECTS

Python Library
Developed a JAX-based **library** for parallel fitting, benchmarking, and efficient manipulations of Neural Fields:
How to train your Neural Fields Representation: A Comprehensive Study and Benchmark

Teaching assistant
Teaching assistant for the graduate courses **Deep Learning 1**, **Deep Learning 2**, and **Machine Learning 1**

Summer schools
Participated in the MLSS 2021, MLSS 2022

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).