

# Gianluca Galletti

[ggalletti@tutanota.com](mailto:ggalletti@tutanota.com) – [github](#) – [scholar](#)

PROFILE	I'm a machine learning PhD at JKU Linz, solving large-scale physics problems with machine learning. Previously, I've worked on graph neural networks and equivariance, reinforcement learning, computer vision, and autonomous driving.	
EXPERIENCE	<i>Doctoral researcher – <b>Johannes Kepler Universität</b> Linz, Austria</i> ▷ Supervised by Prof. Johannes Brandstetter. ▷ Large-scale nuclear fusion simulation problems; domain adaptation in industry.	Oct 2024
	<i>Research assistant – <b>Technische Universität München</b> Munich, Germany</i> ▷ Particle fluid problems with (equivariant) graph neural networks.	Oct 2022 - Sep 2023
	<i>Working student – <b>Celonis</b> Munich, Germany</i> ▷ Developed the process model simulation (DES), released to production.	Dec 2021 - Feb 2023
	<i>Head of Driverless division – <b>Unibo Motorsport</b> Bologna, Italy</i> ▷ Initiated the ongoing <i>UBMDriverless</i> team. System design and computer vision.	Nov 2020 – Sep 2021
EDUCATION	<b>Technische Universität München</b> <i>Munich, Germany</i> MSc in Informatics – <i>Graduated with Honors</i> Thesis: <i>Embedding Topological Graphs for Euclidean GNNs</i> Supervisor: Prof. <i>Stephan Günnemann</i> ; Advisors: Nicholas Gao, Arthur Kosmala	Oct 2021 – Aug 2024
	<b>Alma Mater Studiorum</b> <i>Bologna, Italy</i> BSc in Computer science – <i>Graduated with Honors</i> Thesis: <i>The pyTORCS Environment for Deep Reinforcement Learning</i> Supervisor: Prof. <i>Andrea Asperti</i>	Sep 2018 – Oct 2021
PAPERS	<i>JAX-SPH: A Differentiable Smoothed Particle Hydrodynamics Framework</i> ( <a href="#">paper</a> , <a href="#">code</a> ) A Toshev, H Ramachandran, J Erbesdobler, <b>G Galletti</b> , J Brandstetter, N Adams ICLR 2024 Workshop on AI4Differential Equations In Science  <i>LagrangeBench: A Lagrangian Fluid Mechanics Benchmarking Suite</i> ( <a href="#">paper</a> , <a href="#">code</a> ) A Toshev*, <b>G Galletti</b> *, F Fritz, S Adami, NA Adams NeurIPS 2023 Datasets and Benchmarks Track  <i>Learning Lagrangian Fluid Mechanics with E(3)-Equivariant GNN</i> ( <a href="#">paper</a> , <a href="#">code</a> ). A Toshev, <b>G Galletti</b> , J Brandstetter, S Adami, NA Adams Geometric Science of Information 2023 (oral)	
PROJECTS	<b>LagrangeBench</b> , on <a href="#">github</a> Machine learning benchmarking suite for Lagrangian (particle) fluid problems, in JAX.  <b>Equivariant jax</b> , [ <a href="#">segnn-jax</a> , <a href="#">painn-jax</a> , <a href="#">egnn-jax</a> ] JAX implementation of some popular equivariant models.  <b>pyTORCS</b> , on <a href="#">github</a> Container-based car racing environment for reinforcement learning developed in Python..	
SKILLS	<b>Languages:</b> Python, C++. Also English (fluent), German (basic) and Italian (native) <b>Technologies:</b> JAX, pytorch, Docker, ROS <b>Embedded:</b> ARM / STM32, LabView	
PERSONAL	I have been practicing traditional archery for 5 years. I also enjoy hiking, and sometimes climbing.	