MATTEO **ROBBIATI**
Doctoral student in Physics

☐ + (39) 338 7544137   @ matteo.robbiati@unimi.it   ⌨ github.com/MatteoRobbiati
📍 1, Rue de la petite vie, Saint Genis Pouilly

🔍 RESEARCH INTERESTS

> **Machine Learning** models and their physical application: supervised and unsupervised ML, with a strong focus on **images** recognition and data generation through Generative Adversarial Networks (GANs);
> **Quantum computation**: gates computation, adiabatic computation, Quantum Machine Learning (QML) and QML HEP applications, hardware-compatible optimization techniques, error mitigation methods;
> **Computational Physics**: numerical simulation, Monte Carlo Integration (MCI).
> **Cosmology** and **astrophysics**;

🎓 EDUCATION

2022 - current	**Ph.D. candidate at CERN**, enrolled with University of Milan.
2019 - 2022	**Master degree in Physics**, University of Milan, Milan, Italy.
2015 - 2019	**Bachelor degree in Physics**, University of Milan, Milan, Italy.

💼 EXPERIENCE

Jun. 2022 Sep. 2016	Math and Physics lessons, PRIVATE LESSONS, > Private lessons in math and physics to high school students. `simplification of concepts` `exposition` `self-check`
Dec. 2021 Mar. 2021	Research and data analysis, COOPERATIVE "LA VALLE DI EZECHIELE", > Studying the impact of social cooperatives in getting prisoners back to work and lowering recidivism rates. > Study of "*Social Impact Bonds*" as a financial instrument to support social welfare. > Production of an explanatory report on the current conditions of the Italian prison system. `Data analysis` `networking` `social impact`

📖 PUBLICATIONS

Preprints

2023	Matteo Robbiati, Juan Manuel Cruz-Martinez and Stefano Carrazza: *Determining probability density functions with adiabatic quantum computing*, arXiv:2303.11346

Proceedings of Science

2022	Matteo Robbiati, Stavros Efthymiou, Andrea Pasquale and Stefano Carrazza: *A Quantum Analytical Adam Descent through Parameter Shift Rule using Qibo*, in 41st International Conference on High Energy Physics, (2022). arXiv:2210.10787

🏛 PARTECIPATION IN RESEARCH GRANTS

2021 – 2022	**Collaborator**, *Automatic Monte Carlo on GPU*, Linea 2A, University of Milan.

🔲 PARTECIPATION IN CONFERENCES AND WORKSHOPS

Nov. 2022	**QT4HEP**, CERN
Mar. 2023	**Openlab Technical Workshop**, CERN

🔊 TALKS

Jen. 2023	**Introduction to quantum computation with `qibo`**, QTI-TH Forum, CERN, *Geneve*
Jen. 2023	**Introduction to quantum machine learning using `qibo`**, QTI-TH Forum, CERN, *Geneve*
Feb. 2023	**Introduction to quantum computation with `qibo`**, Nikhef, *Amsterdam*
Mar. 2023	**Density estimation via quantum adiabatic computing**, QTI-TH Forum, CERN, *Geneve*

👥 Outreach and Volunteering

2022 2016	**Scout educator, AGESCI,** > ability to interact constructively with the group, problem solving. team-work · adaptation · interplay · relationship · challenge	
2022 2019	**Volunteer, Apwoyo ONLUS,** > menagement of stressful situations, emphaty. team-work · empathy	

☰ Skills

GitHub	https://github.com/MatteoRobbiati.
Programming	C/C++, Python, HTML, CSS, Nextjs, BASH, LaTeX.
Frameworks	TensorFlow, Keras, Root, Qibo, PennyLane, MPI.
Data frame	Pandas.
OS	Linux, Windows.
Languages	Fluent in english and italian.

Last update
April 17, 2023

Matteo Robbiati