



# Gabriele Bortolai

**Home** : Genova, Italy

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**Website**: <https://sites.google.com/view/gabriele-bortolai>

**Date of birth**: 28/04/1996 **Nationality**: Italian

## ABOUT ME

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My name is Gabriele Bortolai, and I am a Ph.D. student in Computer Science with a background in theoretical physics.

My research project is hosted at the University of Genoa in the Machine Learning Genova Center (MaLGA) and is funded by the Air Force Office of Scientific Research (AFOSR). My project focuses on human authentication through gait analysis.

My master's thesis applied Optimal Transport (OT) within the realm of High Energy Physics (HEP). The primary objective of my research was to tackle OT problems using a novel approach known as Neural Embedding.

My research fields of interest are:

- Machine Learning,
- Optimal Transport,
- Fairness.

## EDUCATION AND TRAINING

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[ 01/03/2024 – Current ]

### Ph.D. in Computer Science

*University of Genoa*

**City**: Genoa

**Country**: Italy

**Field(s) of study**: Machine Learning, Artificial Intelligence, and Signal Processing

### Masters Degree in Physics

*University of Genoa*

**City**: Genoa

**Country**: Italy

**Field(s) of study**: Machine Learning, Optimal Transport, and High Energy Physics

**Final grade**: 106/110

**Thesis**: A study on neural network embedding of jets with transformer-based models.

**Link**: [https://drive.google.com/file/d/1LMG6erV90Q4qpl4wjOx9gohFL6Z0Xp--/view?usp=share\\_link](https://drive.google.com/file/d/1LMG6erV90Q4qpl4wjOx9gohFL6Z0Xp--/view?usp=share_link)

### Bachelor Degree in Physics

*University of Genoa*

**City**: Genoa

**Country**: Italy

**Final grade**: 86/110

## High school diploma

City: Genova

Country: Italy

[ 19/06/2023 – 23/06/2023 ]

## Topics in Modern Machine Learning

*University of Genoa*

[ 05/06/2023 – 09/06/2023 ]

## Deep Learning and Computer Vision School (DLCV)

*University of Genoa*

City: Genoa

Country: Italy

## WORK EXPERIENCE

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[ 02/12/2020 – 30/06/2021 ]

### High School Professor

*Electronics class*

City: Genova

Country: Italy

**Name of unit or department:** Istituto di Istruzione Superiore Gastaldi-Abba  
Classes: Fifth grade, third grade, and first grade.

[ 28/10/2021 – 05/07/2022 ]

### High School Professor

*Electronics class*

City: Genova

Country: Italy

**Name of unit or department:** Istituto Omnicomprensivo Vallescrivina  
Classes: Fifth grade.

[ 07/11/2023 – 12/12/2023 ]

### High school professor

*Math class*

City: Chiavari

Country: Italy

**Name of unit or department:** Istituto Tecnico Professionale di Chiavari  
Classes: Fifth grade, fourth grade, third grade, and first grade.

## LANGUAGE SKILLS

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**Mother tongue(s):** Italian

**Other language(s):**

### English

**LISTENING B2 READING B2 WRITING B2**

**SPOKEN PRODUCTION B2 SPOKEN INTERACTION B2**

*Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user*

## DIGITAL SKILLS

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LaTeX | C,C,C++ | Python | MATLAB | Mathematica | ROOT(CERN) | Experience with the macOS Office suite (Pages Number Keynote) | Arduino Mega | Pytorch, Tensorflow | CVXPY