

Gianluca Covini

Mathematics Master's at UniPv | PhD student in Statistics & Computer Science at Bocconi University

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gianlucacovini

Work experience

Researcher in Statistical Optimal Transport

University College London

Jun 2024 – Present Remote

- Informal research collaboration on: *Bayes Rule via Entropic Approximation of the Knothe–Rosenblatt Rearrangement*.
- Supervisor: Prof. Carlo Ciliberto.

Researcher in Optimization Under Uncertainty

University of Cyprus / VU Amsterdam

Oct 2024 – Dec 2024 Remote

Research report

- Informal research collaboration on: *Submodular functions for Distributionally Robust Optimization*.
- Supervisors: Prof. Angelos Georgiou, Prof. Rosario Paradiso.

Academic Tutor

University of Pavia

Oct 2021 – Sep 2025 Pavia, Italy

- Teaching assistant for Calculus (Engineering BSc) and Probability (AI and Mathematics BSc).
- Supervisors: Prof. Elisabetta Rocca, Prof. Abramo Agosti, Prof. Emanuele Dolera, Prof. Carlo Orrieri.

Statistics Summer Research Intern

University of Cambridge

Jul 2024 – Aug 2024 Cambridge, UK

Research report

- Summer researcher at the Statistical Laboratory on: *Simulation Study on the Statistical Properties of Stochastic Optimization Problems*.
- Supervisors: Prof. Qingyuan Zhao, Tobias Freidling.

Researcher in Operations Research

LIP6 – Sorbonne Université / CNRS

Mar 2024 – Jul 2024 Paris, France

- Research on *Dynamic Algorithm Configuration*: optimal parameter policies for genetic algorithms (Python).
- Results to be presented at **ROADEF 2025**.
- Supervisor: Prof. Carola Doerr.

Machine Learning Researcher

Sphaera

Aug 2023 – Feb 2024 Hybrid

Brief report

- Developed a tracking algorithm for 5-a-side soccer (Python: NumPy, PyTorch, OpenCV, Matplotlib).
- Supervisors: Dr. Mirko Messori, Dr. Giuseppe Roberto Marseglia.

Education

PhD Program in Statistics and Computer Science

Bocconi University

Sep 2025 – Sep 2029 Milan, Italy

- PhD student in Statistics and Computer Science (Computer Science track): currently undertaking an intensive training in computer science, probability, analysis and statistics.

Master's in Mathematics

Grade: 110/110 cum laude; GPA: 29.5/30

University of Pavia

Sep 2022 – Feb 2025 Pavia, Italy

Master's Thesis

- Relevant courses: Functional Analysis, Machine Learning, Econometrics, Statistical Methods, Mathematical Finance, Biomathematics, FEM, Advanced Probability, Stochastic Processes, Dynamical Systems.
- Thesis: *Dynamic Parameter Policies for Leading Ones on Enhanced State Spaces*. Supervisors: Prof. Carola Doerr, Prof. Stefano Gualandi.
- Erasmus+ Traineeship Mar 2024 – Jul 2024
 - Research internship for master's thesis at LIP6 Sorbonne Université / CNRS (Paris, France).

Alumnus of Merit-Based Program

Collegio Borromeo

Sep 2022 – Jul 2024 Pavia, Italy

- Selected for a merit-based college program (accommodation benefits, personal tutor, personalized formative plan).
- Awarded a **2000€** scholarship for being among the best students of the program.

Bachelor's in Mathematics

Grade: 110/110 cum laude; GPA: 29.8/30

University of Pavia

Oct 2019 – Sep 2022 Pavia, Italy

Bachelor's Thesis

- Relevant courses: Linear Algebra; Mathematical Analysis 1–4; Programming 1–2; Probability; Statistics; Optimization Algorithms and Models for Data Science; Foundations of Data Analysis; Numerical Analysis; Numerical Modeling.
- Thesis: *Ewens Sampling Formula and Applications to Biodiversity*. Supervisor: Prof. Emanuele Dolera.

Awards & Scholarships

- Erasmus+ Traineeship** (Mar–Jul 2024): research internship at LIP6 Sorbonne Université/CNRS, Paris.
- Merit-based scholarship** (2000€), Collegio Borromeo (awarded during 2022–2024 program).
- Scholarships / fee waivers for advanced training**:
 - Festum Pi Summer School in Analysis and Machine Learning (Chania, Jul 2025).
 - Bocconi–StatML Spring School (Windsor, Apr 2025).

Lecturer

Almo Collegio Borromeo

Oct 2023 – Dec 2023

Pavia, Italy

- Designed and taught *Advanced Computational Statistics* (theory + applications in R).
- Supervisor: Prof. Emanuele Dolera.

Auditor & Data Analyst

JE Italy

Oct 2022 – Oct 2023

- Monitoring and analysis of data within the confederation.
- Audit consulting services for junior enterprises.

IT Consultant

JECO Pavia

May 2021 – Sep 2023

Pavia, Italy

<https://jecopavia.it/>

- Data management activities.
- PMI digitalization projects.
- Head of IT Sep 2021 – Oct 2022
 - Area members management.
 - Annual strategy planning using OKR.

Publications

Conference publication

Foundations of Genetic Algorithms (FOGA) 2025

Aug 2025

Leiden, NL

- Gianluca Covini, Denis Antipov, Carola Doerr. *Enhancing Parameter Control Policies with State Information*. Proceedings of FOGA 2025. [arXiv:2507.08368](https://arxiv.org/abs/2507.08368)

Talks

Conference presentation

ROADEF 2025 – Conference of the French Operations Research Society

Feb 2025

Champs-sur-Marne, France

[Conference website](#)

- Presented my master's thesis research on dynamic parameter policies for randomized local search on *LeadingOnes*.
- Abstract published in the ROADEF 2025 Book of Abstracts.

Certifications

- TOEFL iBT 106/120 (C1), **ETS**, Oct 2024
- GRE Q168 V162, **ETS**, Oct 2024
- Getting Started with Deep Learning, **NVIDIA**, Mar 2023
- Introduction to startups, **Pack**, Jan 2022
- IBM Data Science, **IBM** through Coursera, Mar 2021
- Startups 101: Come portare un'idea sul mercato, **Entrepreneurship Club Pavia**, Dec 2020
- DELF B1, Ministère de l'éducation nationale, Aug 2016

- Copenhagen PhD School of Stochastic Programming (Copenhagen, Jun 2024).

Advanced training

- Summer School in Analysis & Machine Learning (Festum Pi, Chania, Greece, Jul 2025) – ML, optimal transport, diffusion models.
- Theoretical Foundations of Machine Learning (MaLGA – UniGe, Genoa, Italy, Jun 2025) – Statistical learning, kernels, neural networks, optimization.
- Bocconi–StatML Spring School (Oxford University, Windsor, UK, Apr 2025) – Computational optimal transport; learning with missing data.
- PhD Winter School in Stochastic Optimization (NTNU, Trondheim, Norway, Dec 2024) – Stochastic and robust optimization, energy applications.
- Copenhagen PhD School of Stochastic Programming (University of Copenhagen, Jun 2024) – Scenario-based optimization, risk and uncertainty.
- Intensive School in Data Science (University of Pavia, Sep 2020) – 70h intensive ML course with life-science applications.

IT skills

- Proficient in MATLAB and Python for data analysis, optimization, and algorithm development, with extensive use of NumPy, Pandas, Matplotlib, OpenCV, Pyomo, and multiprocessing for scalable computations; advanced use of L^AT_EX for technical documentation.
- Working knowledge of R and Excel for statistical analysis and reporting; experience with commercial solvers (Gurobi, CPLEX) for mathematical optimization; version control with Git; basic cloud workflows on AWS; familiarity with Julia for numerical computing.
- Basic knowledge of Linux environments (command line, scripting) and WordPress for website management.

Extracurricular experiences

Volunteer

Sant'Egidio – Youth for Peace

Jul 2022 – Sep 2022

Pavia, Italy

- Recreational activities for children in difficult situations.
- Activities to counter school dropout.

Activity Manager

Entrepreneurship Club Pavia

Oct 2020 – Sep 2021

Pavia, Italy

- Organized public events with entrepreneurs and startuppers.
- Managed internal activities.

Co-Founder and Board Member

The Most Maiorum

Oct 2018 – Sep 2021

Pavia, Italy

- Independently organized cultural and charity events with hundreds of spectators.