

Piersilvio De Bartolomeis

Universitatstrasse 6
8006 Zurich
 Personal Website
 Google Scholar

Education

- 2023–PRESENT **Ph.D. in Computer Science**, *ETH Zurich, Switzerland*
- Main advisor: Prof. Fanny Yang
 - Second advisor: Prof. Jonas Peters
 - Research interests: causal inference, treatment effect estimation, drug (re)discovery
- 2020–2022 **M.Sc. in Data Science cum laude**, *ETH Zurich, Switzerland*
- Thesis: “How robust accuracy suffers from certified training with convex relaxations”
 - Advisors: Prof. Fanny Yang and Prof. Amartya Sanyal
 - Selected courses: Causality, Statistical Learning Theory, Reinforcement Learning
- 2017–2020 **B.Sc. in Computer Engineering cum laude**, *Politecnico di Milano, Italy*
- Selected courses: Probability Theory, Mathematical Analysis, Linear Algebra

Research Experience

- 2024 **Visiting Scholar**, *Harvard University, United States*
- Hosted by Prof. Issa Dahabreh and part of the CAUSALab
- 2021 **Research Intern**, *ETH Zurich, Switzerland*
- Hosted by Prof. Cara Magnabosco and part of the Geobiology group
 - Project: Machine learning methods for the identification of protein secretion systems
- 2019 **Visiting Student**, *Hong Kong University of Science and Technology, China*
- Hosted by Prof. Gary Chan
 - Project: Machine learning methods for accurate indoor localization

Publications

- [1] **Piersilvio De Bartolomeis**, Javier Abad, Konstantin Donhauser, and Fanny Yang. “Detecting critical treatment effect bias in small subgroups”. In: *Proceedings of the 40th Conference on Uncertainty in Artificial Intelligence (UAI 2024)*. [ARXIV]
- [2] **Piersilvio De Bartolomeis**, Javier Abad, Konstantin Donhauser, and Fanny Yang. “Hidden yet quantifiable: A lower bound for confounding strength using randomized trials”. In: *Proceedings of the 27th International Conference on Artificial Intelligence and Statistics (AISTATS 2024)*. [ARXIV]
- [3] Mirco Mutti, Riccardo De Santi, **Piersilvio De Bartolomeis**, and Marcello Restelli. “Convex Reinforcement Learning in Finite Trials”. In: *Journal of Machine Learning Research* (2023). [PDF]
- [4] Mirco Mutti, Riccardo De Santi, **Piersilvio De Bartolomeis**, and Marcello Restelli. “Challenging Common Assumptions in Convex Reinforcement Learning”. In: *Advances in Neural Information Processing Systems 35 (NeurIPS 2022)*. [ARXIV]

Scholarships and awards

- 2023 **Ermenegildo Zegna Founder's Scholarship**, *Fondazione Zegna*, Italy
Scholarship of \$6000 awarded to Italian students visiting a leading institution abroad
- 2019-2020 **Merit Scholarship**, *Politecnico di Milano*, Italy
Full scholarship covering tuition and living expenses
- 2018 **Best Freshmen Award**, *Politecnico di Milano*, Italy
Prize of \$1500 awarded to the best freshmen at Politecnico di Milano

Contributed Talks

- 2023 **Workshop on Machine Learning for Healthcare**, *organized by Prescient Design and ETH AI Center*, Zurich, Switzerland
Talk title: "Hidden yet quantifiable: a lower bound for confounding strength using randomized trials"
- 2022 **Workshop on Understanding Deep Learning Through Empirical Falsification**, *organized at NeurIPS*, New Orleans, United States
Talk title: "Certified defences hurt generalisation"

Teaching Experience

- 2023–PRESENT **Introduction to Machine Learning (1000+ students)**, *ETH Zurich*, Switzerland
 - Instructors: Prof. Andreas Krause and Prof. Fanny Yang
 - Designed homework assignments, exam questions, and tutorial lectures
- 2021–2022 **Machine Learning for Geobiology**, *ETH Zurich*, Switzerland
 - Instructor: Prof. Cara Magnabosco
 - Designed homework assignments and a Kaggle competition for the final course project
- 2020 AND 2023 **Advanced Machine Learning**, *ETH Zurich*, Switzerland
 - Instructors: Prof. Joachim Buhmann and Dr. Carlos Cotrini
 - Designed lecture notes, homework assignments and tutorial lectures

Volunteering

- 2023–PRESENT **Speaker Curator**, *TEDxBattipaglia*
Organizing the first TEDx event in my hometown, bringing together high-level Italian speakers to share their ideas and insights with the local community
- 2023–PRESENT **Mentor**, *LeadTheFuture*
LeadTheFuture is a non-profit mentoring organization and the largest merit-based STEM community in Italy. Currently, it counts more than 150 mentors, including researchers and entrepreneurs, and 500 selected mentees