

Daniele Bracale

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Education

Ph.D. in Statistics

University of Michigan

📅 September, 2021 - Today

📍 Ann Arbor, USA

Master of Science in Stochastics and Data Science

Institute of Mathematics - University of Turin (UNITO)

📅 October, 2020

📍 Turin, Italy

Thesis: "Large-width functional asymptotics for deep Gaussian Neural Networks" (Supervisor: Prof. Stefano Favaro)

Bachelor in Mathematics

Institute of Mathematics - University of Turin (UNITO)

📅 July, 2016

📍 Turin, Italy

Thesis: "Implicit function theorem on Banach spaces" (Supervisor: Prof. Vivina Laura Barutello)

Research

Interests:

- Dynamic Pricing
- Performative Predictions
- Optimal Transport
- Neural Networks
- More broadly: theoretical statistics and probability with particular attention to stochastic processes.
- Other areas of interest are functional analysis, differential equations, and variational methods.

Computing skills: R, Python, Docker. Text editor: Latex.

Publications

- **Infinite-channel deep stable convolutional neural networks.** Bracale, D., Favaro, S., Fortini, S., Peluchetti, S. – *35th Conference on Neural Information Processing Systems* 2021.
- **Large-width functional asymptotics for deep Gaussian neural networks.** Bracale, D., Favaro, S., Fortini, S., Peluchetti, S. – *ICLR* 2021.
- **Learning the Distribution Shift in Performative Prediction** Bracale, D., Maity, S., Banerjee, M., Sun, Y. – *Submitted for review* 2024.
- **Microfoundation inference in strategic classification** Bracale, D., Maity, S., Somerstep, S., Maia Polo, F., Banerjee, Sun, Y. – *Submitted for review* 2024.

Conferences

- **Semi-parametric Non-Smooth Optimal Dynamic Pricing.** Bracale, D., Banerjee, M., Sun, Y., *2023 Joint Statistical Meetings*, Toronto (Canada), oral presentation.
- **Semi-parametric Non-Smooth Optimal Dynamic Pricing.** Bracale, D., Banerjee, M., Sun, Y., *XVI Latin American Congress of Probability and Mathematical Statistics (CLAPEM)*, 2023, Sao Paulo (Brazil), contributed poster.
- **Semi-parametric Non-Smooth Optimal Dynamic Pricing.** Bracale, D., Banerjee, M., Sun, Y., *IWAP2023*, Thessaloniki (Greece), oral presentation.
- **Semi-parametric Non-Smooth Optimal Dynamic Pricing.** Bracale, D., Banerjee, M., Sun, Y., *MSSISS 2023*, Ann Arbor (Michigan), oral presentation.

- **Learning the Distribution Shift in Performative Prediction** Bracale, D., Maity, S., Banerjee, M., Sun, Y, *MSSISS 2024*, Ann Arbor (Michigan), oral presentation.

On-Campus work experiences

Tutor for Master Students in Statistics

University of Michigan

📅 July, 2023 - today

📍 Ann Arbor, USA

Description: tutor for Master students in Statistics. I tutored the following courses:

- Linear Algebra PhD preparation course, with application to statistics and probability.
- Probability and Distribution Theory: STATS 510
- Introduction to Statistical Theory: STATS 511
- Statistical Learning: STATS 601

Graduate Student Instructor

University of Michigan/ University of Turin

📅 August, 2021 - May, 2023 / September 2017 - June 2021

📍 Ann Arbor, USA/ Turin, Italy

Description: I taught the following courses:

- **Introduction to Theoretical Statistics (STATS 426):** University of Michigan, Department of Statistics, Undergraduate Senior Lever, Winter 2024, duties: grading, Office Hours.
- **Data Mining and Statistical Learning (STATS 415):** University of Michigan, Department of Statistics, Undergraduate Senior Lever, Winter 2023, duties: lab in R, grading, Office Hours.
- **Applied Regression Analysis (STATS 413):** University of Michigan, Department of Statistics, Undergraduate Senior Lever, Fall 2022, duties: lab in R, grading, Office Hours.
- **Introduction to Statistics and Data Analysis (STATS 250):** University of Michigan, Department of Statistics, Undergraduate Sophomore Lever, Winter 2022, duties: lab in R, grading, Office Hours.
- **Introduction to Theoretical Statistics (STATS 426):** University of Michigan, Department of Statistics, Undergraduate Senior Lever, Fall 2021, duties: grading, Office Hours.
- **Statistics for Stochastic processes:** University of Turin (UNITO), Department of Mathematics, Graduate, Winter 2021, duties: tutoring, grading, Office Hours.
- **Mathematical Analysis 1 and 2:** University of Turin (UNITO), Department of Mathematics, Undergraduate, Fall 2017 and Winter 2018, duties: tutoring, grading, Office Hours.
- **Mathematical Analysis 1 and 2:** University of Turin (UNITO), Department of Data Science, Undergraduate, Winter 2018, duties: tutoring, grading, Office Hours.

Engaged Learning Graduate Consultant at Ginsberg Center

University of Michigan

📅 May, 2023 - Today

📍 Ann Arbor, USA

Description:

- Facilitate workshops on topics including foundations of community engagement, anti-racist community engagement, and appreciative interviewing.
- Contribute to the development of new curriculum and materials for Ginsberg Center workshops and trainings.
- Develop and practice skills including leadership, communication, workshop facilitation, consultation, curriculum development, public speaking, research, and equitable community engagement practice.
- Engage in trainings and professional development with other consultants in a collaborative community of practice, in order to develop a professional identity as a community engagement consultant and educator.
- Have the opportunity to participate in other aspects of Ginsberg Center's work, including data analysis, creating and analyzing surveys, program evaluation, and research.

Service

- **RAC DAC committee: Rackham Diversity, Equity, and Inclusion Advisory Committee** (member). Work on the best ways to structure the committee to address issues related to both Rackham's internal organization and its mission to support graduate students and graduate education

- **GRIN** (Graduate Rackham International) group at U-M: President (2023); manager of the GRIN site (2022/23); organizer of DEI events for international graduate students (2021/22). Site: <http://www.grinrackham.com/>.
- **LGBTQ+ working group** (2022/2023): stipulate recommendations to LSA for supporting members of U-M community.
- **HIV/STI Counselor** at *UNIFIED HIV and Beyond* in collaboration with the Spectrum Center and Wolverine Wellness at U-M (2023): take and provide test results (Chlamydia, Gonorrhea, Syphilis, and Hep C) and support students, faculty, and staff at U-M about information, resources, and practices about HIV and STIs. I am a certified for Phlebotomy/Venipuncture Training sponsored by the Michigan Department of Human Health and Human.
- **DEI committee at the Department of Statistics** (2023-today): I am a member of the group, that contributes to improving recruitment and outreach in the department.

Awards

- *Michigan Difference Student Leadership Award (2023/2024)*. Given to the Ginsbegr Center group whose programs and efforts educate people on social justice issues on campus and/or abroad and have shown evidence of a significant impact on addressing power, privilege, and discrimination to foster inclusiveness and a socially just society.
- *Outstanding Graduate Student Instructor Award-Team (2023)*. The Outstanding Graduate Student Instructor Awards Team recognizes the efforts and accomplishments of GSIs who demonstrate extraordinary dedication and excellence as teachers. The Award goes to the team composed of Daniele Bracale, Prayag Chatha, and Junting Wang, the GSIs of the course STATS-413 taught in the Fall of the academic year 2022-2023.
- *Outstanding Graduate Student Service Award - honorable mention (2023)*. Given to a graduate student in recognition of excellent service to the department or the graduate student community.
- *Rackham Conference Travel Grant (2023)*: received \$1500 for presenting the project *Semi-parametric Non-Smooth Optimal Dynamic Pricing* at the conference CLAPEM, 2023, in Sao Paulo (Brazil).
- *Rackham Conference Travel Grant (2023)*: received \$1200 for presenting the project *Semi-parametric Non-Smooth Optimal Dynamic Pricing* at the conference IWAP, 2023, in Thessaloniki (Greece).

Languages

Italian (Native language), Portuguese (fluent), English (fluent)

Others Certificates:

- *Phlebotomy/Venipuncture Training*. Sponsored by Michigan Department of Human Health and Human. September 11th, 2023.