

Antonio Di Noia - Curriculum Vitae

July 2025

Born 27 March 1999, Italian nationality.

Email: antonio[dot]dinoia55[at]gmail[dot]com

Positions

2022–present: PhD candidate, ETH Zurich, Switzerland.

2022–present: Research assistant, Università della Svizzera italiana (USI), Switzerland.

2020: Credit risk analyst, Banca MPS, Italy.

Studies

2022–2026: PhD in Mathematics, ETH Zürich, Switzerland.

2020–2022: MSc in Statistics with honors, Sapienza University of Rome, Italy.

2017–2020: BSc in Statistics with honors, University of Siena, Italy.

Teaching

2024: Advanced Statistics (Master level, USI).

2024: Statistics (Master level, USI).

2023: Advanced Statistics (Master level, USI).

2023: Statistics (Master level, USI).

2023: Bayesian methodology and advanced Monte Carlo simulations (7h, PhD level, USI).

Supervision

3 semester projects at Master level and 1 Bachelor thesis.

Awards

2024: ICSDS student award – IMS International Conference on Statistics and Data Science.

2023: ISBA BayesComp travel award.

2013–2017: Math/Phys/Info Olympiads, local/regional/national ranked.

2016: Merit-based student exchage program Somerville (USA) - Gaeta (Italy).

2016: LUISS Orientation Summer School (competition-based).

2016: Scuola Superiore Sant’Anna Pisa Summer School (competition-based).

2015: LUISS Creative Summer School (competition-based).

2015: Winner, Mantova Festival of Literature for the editorial project *Here I Am*.

2014: Award in memory of Alfredo Lanzafame, High-school E. Fermi Gaeta.

Funding

2022–2026: Fully funded Swiss PhD scholarship ($\approx 200k$ CHF).

2024: ICSDS award (800 USD).

2023: BayesComp award (200 USD).
 2016: LUISS Orientation Summer School scholarship (≈ 1500 EUR).
 2016: Scuola Superiore Sant'Anna Pisa Summer School scholarship (≈ 1500 EUR).
 2015: LUISS Creative Summer School scholarship (≈ 1500 EUR).
 2014: Alfredo Lanzafame scholarship (≈ 500 EUR).

Service to the community

2024: Organizing committee, Satellite workshop to ISBA 2024 World Meeting.
 2021–2022: Student representative, Sapienza University of Rome.
 2019–2020: Student representative, University of Siena.

Talks

2024: A new framework for Bayesian local robustness based on distortion functions (Student award talk, ICSDS, Nice, France).
 2024: Likelihood distortion and Bayesian local sensitivity (Poster, ISBA World Meeting, Venice, Italy).
 2024: Bayesian robustness through distortion functions (Invited Talk, Satellite to ISBA, Lugano, Switzerland).
 2023: Bayesian nonparametric estimation of heterogeneous intrinsic dimension (Contributed Talk, SIS, Ancona, Italy).
 2023: On identifiability of statistical models (Poster, BayesComp, Levi, Finland).
 2022: Regression models in shape spaces (MSc Thesis Defense, Rome, Italy).
 2021: Probabilistic scoring rules (Rome, Italy).
 2021: Statistical learning for Land-Use-Land-Cover (Rome, Italy).
 2021: Compound count mixtures for biclustering (Rome, Italy).
 2021: K-mer clustering (Rome, Italy).
 2021: Prediction with high-dimensions (Kaggle Competition-3rd place, Rome, Italy).
 2020: Bayesian hierarchical modelling (Rome, Italy).
 2019: Statistical learning in recommender systems (Siena, Italy).
 2016: Invited speaker at the event *Cittadino del mondo*, Festival dei Giovani (Gaeta, Italy).

Specialized skills

Computer skills: Proficient in R and LaTeX, with working knowledge of various statistical and general-purpose programming languages.
Languages: Italian, English (fluent), French (basic).
Music: Guitar.

Brief general statement

I am broadly interested in nonparametric and high-dimensional statistics with asymptotic and non-asymptotic guarantees, and from both frequentist and Bayesian perspectives. My research have focused on nonparametrics, empirical processes, M-estimation, parametric

inference for heavy-tailed distributions and chaotic systems, geometric statistics and robustness. I am also interested in high-dimensional phenomena arising in various fields of mathematics.

I am a member of the following scientific societies: Institute of Mathematical Statistics (IMS), International Society for Bayesian Analysis (ISBA), and the Italian Statistical Society (SIS).

I have participated in numerous academic conferences, workshops, summer schools.

I have participated in student exchange programs in Dublin (AFS), Montpellier (Alliance Française), and Somerville (high-school exchange).

I contributed to the *Repubblica@Scuola* editorial team during high school.

Manuscripts

- [14] Ben Ali Zinati, R., Di Noia, A., Haario, H., and Mira, A., “Generalized Bayesian inference for chaotic systems,” 2025 (In preparation).
- [13] Di Noia, A., Glielmo, A., and Mira, A., “Uncertainty quantification for the information imbalance,” 2025 (In preparation).
- [12] Di Noia, A., Ravenda, F., and Mira, A., “Adaptive nonparametric dimensionality reduction,” 2025 (In preparation).
- [11] Balabdaoui, F., Di Noia, A., and Durot, C., “Deconvolution with parametric rate of convergence in unlinked linear models,” 2025 (Submitted).
- [10] Balabdaoui, F. and Di Noia, A., “Asymptotic theory for nonparametric testing of k -monotonicity in discrete distributions,” 2024 (Submitted).
- [9] Di Noia, A., Macocco, I., Glielmo, A., Laio, A., and Mira, A., “Beyond the noise: intrinsic dimension estimation with optimal neighbourhood identification,” 2024 (Submitted).
- [8] Barabesi, L., Di Noia, A., Marcheselli, M., Pisani, C., and Pratelli, L., “Estimation and Goodness-of-Fit Testing for Non-Negative Random Variables with Explicit Laplace Transform,” *Statistica Sinica*, SS–2023, 2026.
- [7] Di Noia, A., Ruggeri, F., and Mira, A., “Likelihood distortion and Bayesian local robustness,” *Bayesian Analysis*, vol. 1, no. 1, pp. 1–21, 2025.
- [6] Di Noia, A., Marcheselli, M., Pisani, C., and Pratelli, L., “A family of consistent normally distributed tests for Poissonity,” *AStA Advances in Statistical Analysis*, vol. 108, no. 1, pp. 209–223, 2024.
- [5] Di Noia, A., Mastrantonio, G., and Lasinio, G. J., “Bayesian size-and-shape regression modelling,” *Statistics & Probability Letters*, vol. 204, p. 109 928, 2024.
- [4] Di Noia, A., Marcheselli, M., Pisani, C., and Pratelli, L., “Censoring heavy-tail count distributions for parameter estimation with an application to stable distributions,” *Statistics & Probability Letters*, vol. 202, p. 109 903, 2023.

- [3] Di Noia, A., Denti, F., and Mira, A., “A tool for assessing weak identifiability of statistical models,” in *Book of the Short Papers SEAS IN 2023*, Pearson, 2023, pp. 1230–1234.
- [2] Denti, F., Di Noia, A., and Mira, A., “Bayesian nonparametric estimation of heterogeneous intrinsic dimension via product partition models,” in *Book of the Short Papers SEAS IN 2023*, Pearson, 2023, pp. 316–321.
- [1] Di Noia, A., Barabesi, L., Marcheselli, M., Pisani, C., and Pratelli, L., “Goodness-of-fit test for count distributions with finite second moment,” *Journal of Nonparametric Statistics*, vol. 35, no. 1, pp. 19–37, 2023.