

# Luca Masserano

Email: lmassera@andrew.cmu.edu Website: <https://lucamasserano.github.io/>

## EDUCATION

---

**Carnegie Mellon University**, PhD in Statistics and Machine Learning Aug 2020 – May 2025 (Expected)  
Joint PhD Program between the Machine Learning and Statistics Departments  
Advisors: Ann B. Lee, Barnabás Póczos. **CMU 2024 Presidential Fellow for the Statistics Department**

**Bocconi University**, M.Sc. in Data Science (Statistics) Sep 2018 – Jul 2020  
GPA: 29.3/30, Final Grade: 110/110 *cum laude*

**Università Cattolica del Sacro Cuore**, B.Sc. in Quantitative Methods for Economics Sep 2015 – Sep 2018  
GPA: 29.2/30, Final Grade: 110/110 *cum laude*

## EXPERIENCE

---

**Carnegie Mellon University**, Doctoral Researcher Aug 2020 – Present

- **Trustworthy Scientific Inference with Deep Generative Models:** My PhD research focuses on endowing modern generative models with strong statistical guarantees, so that they can be used to draw trustworthy conclusions. My work involves a blend of classical statistical theory and modern machine learning methodology. We collaborate with domain scientists from several institutions (e.g., CERN and NASA) to enable reliable scientific discovery with AI.
- **Time Series Forecasting and Optimization:** I worked in these areas during several internships. In my last project, I developed, trained and tested a novel LLM-based foundation model for time series forecasting.

**Amazon (AWS AI Labs)**, Machine Learning Scientist Intern Jun – Aug 2022/2023/2024

- **Project (2024):** Enhancing Foundation Models for Time Series Forecasting via Wavelet-based Tokenization. Offered to return full-time in 2025.
- **Project (2023):** End-to-end Learning of Mixed-Integer Programs via Stochastic Perturbations. Offered to return for another internship in 2024.
- **Project (2022):** Adaptive Sampling for Probabilistic Forecasting Under Distribution Shifts. Offered to return for another internship in 2023.

**BlackRock**, Quantitative Analyst Intern Jul 2019 – Sep 2019

- **Project:** Development of a research platform to analyze the effect of modifications in a suite of equity risk models. Offered to return full-time in 2020.

**SmartFAB**, Data Scientist Intern Mar 2019 – May 2019

- **Project:** Real-time detection of damaged integrated circuits produced in a semiconductor plant.

## SELECTED PUBLICATIONS AND PREPRINTS

---

**Masserano, L.**, Ansari, A., Han, B., Zhang, X., Faloutsos, C., Mahoney, M., Wilson, A., Rangapuram, S., Maddix, D., Wang, Y. (2024) *Enhancing Foundation Models for Time Series Forecasting via Wavelet-based Tokenization*. Under Review.

**Masserano, L.**, Rangapuram, S., Stella, L., Benidis, K., Rosolia, U., Bohlke-Schneider, M. (2023) *End-to-end Learning of Mixed-Integer Programs via Stochastic Perturbations*. In preparation.

**Masserano, L.**, Shen, A., Dorigo, T., Doro M., Izbicki R., Lee, A. (2023) *Classification under Nuisance Parameters and Generalized Label Shift in Likelihood-Free Inference*. **ICML 2024; NeurIPS 2023 ML4PS Best Poster Award**

**Masserano, L.**, Dorigo, T., Izbicki, R., Kuusela, M., Lee, A. (2023) *Simulation-Based Inference with Waldo: Confidence Regions by Leveraging Prediction Algorithms and Posterior Estimators for Inverse Problems*. **AISTATS; ASA Paper Award**

**Masserano, L.**, Rangapuram, S., Kapoor, S., Nirwan, R.S., Park, Y., Bohlke-Schneider, M. (2022) *Adaptive Sampling for Probabilistic Forecasting under Distribution Shifts*. **NeurIPS 2022 DistShift Workshop**

Dalmaso, N.<sup>\*</sup>, **Masserano, L.<sup>\*</sup>**, Zhao, D., Izbicki, R., Lee, A. (2021) *Likelihood-Free Frequentist Inference: Bridging Classical Statistics and Machine Learning for Simulation-Based Inference*. <sup>\*</sup>Equal contribution. **Electronic Journal of Statistics**

## COMPUTER SKILLS AND LANGUAGES

---

**CODING:** Python, R, Bash, L<sup>A</sup>T<sub>E</sub>X, Git. Developer and maintainer of the lf2i package for likelihood-free inference.

**LANGUAGES:** Italian (native), English (fluent), Spanish (intermediate)

## SERVICE

---

### Teaching Assistant at Carnegie Mellon University

- Computing TA: helping PhD students and faculty with research-related computing needs
- STAT 36401 - Modern Regression (Head TA in Fall 2021)
- STAT 36462 - Statistical Machine Learning

**Reviewer for Conferences:** NeurIPS 2024

## AWARDS

---

**CMU 2024 Presidential Fellow for the Statistics Department** Jan 2024

Awarded only to one student every year in recognition of research, contributions to pedagogy, and department citizenship

**SIAM Student Travel Award** Jan 2024

Awarded a travel grant through a competitive process to take part to the 2024 SIAM Uncertainty Quantification conference

**Best Poster Award at the NeurIPS Machine Learning for Physical Sciences Workshop** Dec 2023

Classification under Nuisance Parameters and Generalized Label Shift in Likelihood-Free Inference

**Student Paper Award by the American Statistical Association, Section on Physical Sciences** Jan 2023

Simulation-based Inference with WALDO: Confidence Regions by Leveraging Prediction Algorithms and Posterior Estimators

## EXTRACURRICULAR ACTIVITIES

---

### Professional Soccer Player

I played as goalkeeper from 2012 to 2015 in different professional leagues in Italy. I stopped due to an injury.