LUCA MASSERANO

PhD STUDENT IN STATISTICS at CARNEGIE MELLON UNIVERSITY

Email: lmassera@andrew.cmu.edu - **Personal Site:** lucamasserano.github.io

EDUCATION

Carnegie Mellon University, PhD Student in Statistics — Aug 2020 – present
Advisor: Ann B. Lee, **Co-Mentor:** Zachary Lipton.
Earned an MS in Statistics during the first year of the PhD

Bocconi University, M.Sc. in Data Science (Statistics under Italian Law) — 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: 29.3/30, Final Grade: 110/110 *cum laude*

RELEVANT EXPERIENCE

Carnegie Mellon University, Doctoral Researcher — Aug 2020 – present

- **Uncertainty quantification in simulation-based inference:** developing new methods that allow to do inference on parameters of interest via confidence regions with robust statistical guarantees. This line of work has many applications in different fields of science (e.g., high-energy physics, astronomy)
- **Learning under distribution shift:** developing techniques that can *(i)* detect and *(ii)* quantify the shift, and *(iii)* correct our models on the fly when possible. Lately, I've been working on these problems within a time series setting

Amazon (AWS AI Labs), Machine Learning Scientist Intern — Jun 2022 – Aug 2022

- Developed and implemented a novel method to improve robustness of forecasting algorithms against distribution shifts. Conference paper in preparation. Offered to return for another internship

BlackRock, Quantitative Analyst Intern — Jul 2019 – Sep 2019

- Designed and developed a new research platform that allowed to inspect the downstream effect of any modification in a suite of equity risk models. Offered to return full-time in 2020

SmartFAB, Data Scientist Intern — Mar 2019 – May 2019

- Exploited various statistical models to improve real-time detection (+50% achieved) of damaged integrated circuits produced in a semiconductor plant in southern Italy

SELECTED PUBLICATIONS

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

Masserano, L., Dorigo, T., Izbicki, R., Kuusela, M., Lee, A. (2022) *Simulation-Based Inference with WALDO: Perfectly Calibrated Confidence Regions Using Any Prediction or Posterior Estimation Algorithm.* Under review (NeurIPS)

Dalmasso, N.*, **Masserano, L.***, Zhao, D., Izbicki, R., Lee, A. (2021) *Likelihood-Free Frequentist Inference: Confidence Sets with Correct Conditional Coverage* . Under review (JMLR). * Equal contribution

COMPUTER SKILLS AND LANGUAGES

CODING: Proficient: Python, R; **Familiar**: SQL; **Everyday Use**: Bash, LaTeX, Git, Vim; **Beginner**: C++, OCaml

LANGUAGES: Italian (native speaker), English (fluent), Spanish (Intermediate)

ADDITIONAL EXPERIENCE

Teaching Assistant at Carnegie Mellon University:

- *STAT 36401* - Modern Regression (Head TA in Fall 2021); *STAT 36462* - Statistical Machine Learning

Professional Soccer Player

- I played as goalkeeper from 2012 to 2015 in the third division in Italy. I stopped due to an injury