Giosue Migliorini

Based in Irvine, CA

Website | Email | LinkedIn | GitHub | Scholar

EXPERIENCE

University of California, Irvine — Irvine, CA
Graduate Student Researcher — *Sept. 2023 – Present*
- Applied generative AI (diffusion models) to geospatial problems like precipitation forecasting
- Developed novel deep generative models based on optimal transport theory and normalizing flows
- Assessment of algorithmic fairness with uncertain sensitive attributes

Los Alamos National Laboratory — Los Alamos, NM
Graduate Research Assistant (Research Intern) — *June 2023 – Sept. 2023*
- Applied Bayesian deep learning for inference and uncertainty quantification in scientific problems
- Implemented computational methods in the multiverse library

University of California, Irvine — Irvine, CA
Teaching Assistant — *Sept. 2022 – May 2023*
- Discussion sessions, office hours, and grading for classes in statistical theory (undergraduate) and modeling (Master's in Data Science)

EDUCATION

University of California, Irvine — Irvine, CA
Ph.D. in Statistics — *Sept. 2022 – Present*
- Advisor: Prof. Padhraic Smyth

Bocconi University — Milan, Italy
M.Sc. in Data Science (summa cum laude) — *Sept. 2020 – July 2022*
- Thesis: "*Computational methods for high-dimensional Bayesian variable selection*" (with Prof. Giacomo Zanella)
- Coursework: machine learning, algorithms, optimization, probability and measure theory

University of Padova — Padova, Italy
Bachelor in Economics (summa cum laude) — *Oct. 2017 – Sept. 2020*
- Merit award "*Mille e una Lode*" given to top 3 % of the class
- Exchange program at Montpellier Business School in France

TECHNICAL SKILLS

- Proficient in Python (PyTorch, Scikit-learn, JAX) and R, intermediate in SQL, Julia, Git, Bash

PUBLICATIONS

- **Giosue Migliorini** and Padhraic Smyth. Latent Trajectory Learning from the Interaction of Discrete Particles. *NeurIPS workshop on Bayesian Decision-making and Uncertainty, 2024.*

- Gavin Kerrigan, **Giosue Migliorini**, and Padhraic Smyth. Dynamic Conditional Optimal Transport through Simulation-Free Flows . *Neural Information Processing Systems (NeurIPS), 2024.*

- Gavin Kerrigan, **Giosue Migliorini**, and Padhraic Smyth. Functional Flow Matching. *International Conference on Artificial Intelligence and Statistics,* 2024. **Oral, Outstanding Student Paper Highlights**.

MANUSCRIPTS

- Clément Guilloteau, Gavin Kerrigan, Kai Nelson, **Giosue Migliorini**, Padhraic Smyth, Runze Li, and Efi Foufoula-Georgiou. A Generative Diffusion Model for Probabilistic Ensembles of Precipitation Maps Conditioned on Multisensor Satellite Observations, 2024. *Under review at IEEE TGRS.*

OTHERS

- **Chair** and **organizer** (jointly with Dr. Natalie Klein, my mentor at Los Alamos) of a session on Bayesian deep learning featuring world-class experts at the Joint Statistical Meeting 2024.

- **Reviewer** for AIStats 2025, NeurIPS workshop on Bayesian Decision-making and Uncertainty, 2024.

- **Languages**: Italian (native speaker), English (fluent), French (intermediate).

- **Volunteer tutor for CIAI** (*Jan. 2022 - June 2022*): taught mathematics to middle school students affected by remote learning.