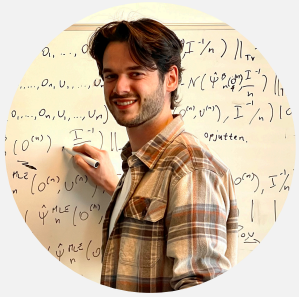

+39 366 538 14 79

f.gili@tudelft.nl

www.francescogili.nl

EDUCATION

Ph.D. in Mathematical Statistics, TU Delft.
Sep 2022 - current

M.Sc. Stochastics & Financial Mathematics (Mathematics), Universiteit van Amsterdam.
grade: Cum Laude.
Sep 2020 - Aug 2022

B.Sc. Mathematics for Finance & Insurance (Mathematics), Università degli studi di Torino.
grade: Cum Laude.
Sep 2017 - Aug 2020

LANGUAGES

Italian (native), English (C1 level certified), Spanish (C1 level certified), Dutch (B2 level).

Coding:

Python : numpy, scipy, pandas, seaborn, matplotlib, sklearn, PyMC3, PyBN, tkinter, jax, pytorch, tensorflow.

R : BNPmix, BNPdensity,DPpackage, isocir, limSolve.

PUBLICATIONS

Gili, F., Jongbloed, G. and van der Vaart, A. (2024). *Adaptive and Efficient Isotonic Estimation in Wicksell's Problem*. Journal of Nonparametric Statistics, Taylor & Francis pp. 1-41. https://doi.org/10.1080/10485252.2024.2397680

Gili, F., Jongbloed, G. and van der Vaart, A. (2024). *Asymptotically efficient estimation under local constraint in Wicksell's problem*. Preprint: https://arxiv.org/pdf/2410.14263

Gili, F., Jongbloed, G. and van der Vaart, A. (2025). *Semiparametric Bernstein-von Mises Phenomenon via Isotonized Posterior in Wicksell's problem*. Preprint: https://arxiv.org/pdf/2502.15352

Francesco Gili

PROFILE

I am a quantitative researcher, with a specialization in statistical and probabilistic analysis. I have a background in mathematics with a focus on stochastics. My expertise lies in the application of statistical models to analyze random processes and probabilistic phenomena. I am currently pursuing a PhD in mathematical statistics under the supervision of Prof. dr. Aad van der Vaart and Prof. dr. Geurt Jongbloed at the TU Delft.

RELEVANT WORK EXPERIENCE

Spring into Quantitative Finance, April 2025.

I have been accepted into the 2025-SQF program of G-Research. There, participants will take part in a wide range of workshops and insights seminars, hosted by their quant researchers and machine learning experts.

PhD Candidate, Sep 2022 - present, Delft.

I have worked on three inverse problems. First, Wicksell's problem, with applications in astronomy and material science, where I explored both frequentist and Bayesian nonparametric approaches, leading to three publications and a Python package for the frequentist method. Second, deconvolution with smooth decreasing densities with Bayesian nonparametric approach. Finally, two projects in proximal causal inference, a novel approach based on an inverse relation to handle unobserved confounding. The results for the last two problems are not yet published.

Research internship CWI, Jan 2022 - Aug 2022, Amsterdam.

The research project was embedded in the Machine Learning group and the focus was on the investigation of martingale methods for sequential analysis and learning. I demonstrated the power of certain statistical testing methods, also adapt for optional stopping and online learning settings.

Energy analyst internship, Jul 2021 - Sep 2022, Amsterdam.

Energy companies may have a low number of measurements in the lower part of the grid; during this research internship, we evaluated models for the estimation of consumption profiles, with the final objective of forecasting. To do so, I employed supervised and unsupervised machine learning, as well as time series analysis. I also improved the uncertainty quantification of the existing methods, influencing the porfolio management.

OTHER WORK EXPERIENCE

Teaching assistant UvA - VU, Sep 2022 - Aug 2022, Amsterdam.

I have been teaching assistant for master courses such as Stochastic Processes for Finance and Stochastic Integration (Mastermath - national course). Moreover, I have been Tutor for first year students.

Tutor UniTo, Nov 2018 - Jun 2019, Turin.

I was lecturer in the Project Digital Math Training and I would teach students how to use the multi-paradigm programming language Maple in order to solve mathematical problems.