Francesco Mattesini

Curriculum Vitae

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Short Summary

I am a mathematician currently working as a model validation quant in the Credit & Securitization team in Deutsche Bank. My tasks involve the validation of pricing models in Credit & Securitization and associated reserve models, Independent Price Verification models, and other types.

Prior to that I was conducting research at the intersection of analysis and probability. My research focus was on application of variational methods and stochastic calculus to the study of the optimal matching problem, which outcome can be found in the 3 publications [HMT23], [HMO21] and [CM23] and in the preprint [HMO23].

Current Occupation

December 2023–Present	**Model Validation Senior Specialist (Assistant Vice President)**, *Deutsche Bank*. Validation of pricing model in Credit & Securization.

Education

2020–2024	**PhD in Mathematics**, *Universität Münster and Max Planck Institute for Mathematics in the Sciences*, Münster and Leipzig. Final dissertation title: "A Variational Approach to the Optimal Matching Problem", supervised by Prof. Martin Huesmann and Prof. Felix Otto. Final grade: Magna cum laude
2018–2020	**Master's Degree in Mathematics**, *Università di Pisa*, Pisa. Final dissertation title: "Asymptotics of Transportation Cost for Occupation Measures of Fractional Brownian Motion", supervised by Prof. Dario Trevisan and Prof. Martin Huesmann. Final grade: 110/110 cum laude.
2015–2018	**Bachelor's Degree in Mathematics**, *Università di Pisa*, Pisa. Final dissertation title: "Regularity problems for Young Differential Equations", supervised by Prof. Dario Trevisan. Final grade: 109/110

Computer skills

I am acquainted to python and managing shared repositories through SVN as it is part of my daily basis workflow.

During my academic career I learnt the basics of C++ and of data analysis tools such as R and Matlab.

Programming Languages	**python, R, C++, Matlab, Octave LaTeX**
Softwares	**Microsoft Office, MacOs, Github, SVN**

Publications and Preprints

[CM23]   Nicolas Clozeau and Francesco Mattesini. Annealed quantitative estimates for the quadratic 2d-discrete random matching problem. *Probability Theory and Related Fields*, 2023.

[HMO21] Martin Huesmann, Francesco Mattesini, and Felix Otto. There is no stationary cyclically monotone poisson matching in 2d. *Probability Theory and Related Fields*, 187:629–656, 2021.

[HMO23] Martin Huesmann, Francesco Mattesini, and Felix Otto. There is no stationary p-cyclically monotone poisson matching in 2d. *arXiv 2311.17687*, 2023.

[HMT23] Martin Huesmann, Francesco Mattesini, and Dario Trevisan. Wasserstein asymptotics for the empirical measure of fractional brownian motion on a flat torus. *Stochastic Processes and their Applications*, 155:1–26, 2023.

Teaching Experience

Fall 2022   **Stochastic Analysis**, *Tutor*, Course held by Prof. Martin Huesmann.

Fall 2021   **Bachelorseminar**, *Tutor*, Course held by Prof. Martin Huesmann.

Languages

Italian   **Mothertongue**

English   **Advanced**   *IELTS overall 8*

Spanish   **Beginner**