Elhadji Hassan Maissoro Malam Idi

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Technical Skills

General Statistical modeling, Machine learning, Non-linear modeling, Bayesian statistics, Clustering, Processes and forecasting, Econometrics, Micro/Macroeconomics, etc.

Advanced (Non)parametric statistics, Process statistics, etc.

Languages Advanced proficiency in R and its main libraries (data.table, RShiny, tidyverse, ggplot2, plotly, rAmCharts, Rcpp, ...), Python, C/C++, SQL, Stata, LaTeX, Git, etc.

Languages French, English (B2)

Education

École Nationale de la Statistique et de l'Analyse de l'Information (ENSAI - Rennes) **2019 – 2025**
PhD in Applied Mathematics *ED Matisse de Rennes, 2021 – 2025*

- Topic: Robust approach to functional data analysis.
- Supervisors: Valentin Patilea & Myriam Vimond

Data Scientist Engineer (Master's Degree) *2019 – 2021*

- Specialization: Data Science & Statistical Engineering.
- Main skills: Statistical modeling, Machine learning, Deep learning, Non-linear modeling, Image processing, Processes and forecasting, Quality/Reliability, etc.

Université de Rennes 1 **2020 – 2021**
Research Master's in Mathematics and Applications, Fundamental Mathematics track

- Parallel Degree Program with ENSAI's Master's Degree
- Main skills: Parametric statistics, Non-parametric statistics, Process statistics, etc.

École Nationale de la Statistique et de l'Analyse Économique (ENSAE-Dakar) **2015 – 2019**
Statistician engineer

- Specialization: Statistics and decision-making IT.
- Main skills: Statistics, Data mining, Econometrics, Micro/Macroeconomics, Survey methods, IT, etc.

Publications

Maissoro, H., Patilea, V., & Vimond, M. (2024). Adaptive estimation for Weakly Dependent Functional Time Series. *arXiv*

- Submitted to a journal

Maissoro, H., Patilea, V., & Vimond, M. (2024). Adaptive prediction for functional time series. *Work in progress.*

- In the process of finalization

Professional Experience

DataStorm **April 2021 – Present**
PhD Student in Statistics *Oct. 2021 – Present*

Research : Estimation and prediction for irregular trajectories through functional data analysis.

- Application: Load curves of electricity production and consumption.
- Implementation of developed methods in C++, R, and Python.
- Supervisor of an Intership on the estimation of the regularity of noisy functional data.

Projects for DataStorm clients

- Short- and medium-term forecasts of hydroelectric park production.
- R package for deploying hydroelectric production forecast models.
- MCO of a Shiny app for forecasting calls for an energy provider's call centers.
- MCO of a Shiny app for analyzing simulations of the electrical grid's behavior.
- Data preparation and student supervision for the ENSAE Business Data Challenge.

Data Scientist Intern *April – Sept. 2021*

- Anomaly detection in a collection of noisy curves.
- Theoretical study and R implementation of depth functions for data.
- Curve clustering and functional linear modeling.

Inserm - Délégation Régionale Paris 5 **June – Sept. 2020**
Data Scientist Intern

- Improvement of a Shiny application for medical literature mining.
- Querying PubMed REST API to retrieve articles and extracting keywords using NLP.
- Clustering articles based on keywords.

Consortium pour la Recherche Économique et Sociale **Dakar, March – June 2019**
Research Intern

- Study of income inequality and its evolution in Togo.
- Econometric methods and decomposition of inequality indices. Programming in Stata and R.

Institut National de la Statistique du Niger
Application Internship *Niamey, Aug. – Sept. 2018*

- Study of determinants of food insecurity in Niger.
- Survey data cleaning, imputation, reweighting, GLM. Programming in Stata and R.

Application Internship *Niamey, Aug. – Sept. 2017*

- Descriptive analysis of early marriages in Niger.
- Handling survey data, Descriptive Statistics. Programming in SPSS, Stata, and R.

Teaching

Tutorial on unsupervised classification with exercises and applications in R. *Ensai-Rennes, April 2024.*
Tutorial on multivariate time series with exercises and applications in R. *Ensai-Rennes, Jan-Feb 2024.*
Seminar on forecasting an integer time series. *Ensae-Paris, April 2024.*
Seminar on forecasting hydroelectric dam production. *Ensae-Paris, March 2023.*

Conferences

Adaptive estimation for Weakly Dependent Functional Times Series. *IMS World Congress, Bochum, Germany, Aug. 2024*
Adaptive prediction for Functional Times Series. *ISNPS, Braga, Portugal, June 2024*
Adaptive prediction for Functional Times Series. *JDS, Bordeaux, France, May 2024*
Learning the Smoothness of Weakly Dependent Functional Times Series. *ENSAE-ENSAI Days, Paris, France, Sept. 2023*
Learning the Smoothness of Weakly Dependent Functional Times Series. *JDS, Brussels, Belgium, July 2023*
Modeling a collection of curves using Functional Data Analysis. *Breizh Data Day, Saint-Brieuc, France, April 2023*
Learning the Smoothness of Weakly Dependent Functional Times Series. *JME, Paris, France, Nov. 2022*
Learning the Smoothness of Weakly Dependent Functional Times Series. *GOFCP, Rennes, France, Sept. 2022*

Other Activities

Registered for the Lyon Marathon, France *October 2024*
Finisher of the Paris Half-Marathon, France *March 2022 & March 2024*
Finisher of the Paris 10 km, France *June 2024*
Member of the ENSAI Rennes football team, France *2020 & 2021*
President of the Sports Club at ENSAE-Dakar *Dakar, Senegal, 2018*