Youssouph Cissokho

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Personal profile

Bilingual (English and French), well organized, eager to learn and productive. Excellent communication and presentation skills, confident, enthusiastic and hard worker.

Education

2018-2022 **Ph.D. in Applied Mathematics (Statistics)**, *University of Ottawa*, (Ottawa).

Title of the thesis **Estimation of cluster functionals for regularly varying time series**.

Supervisors **Rafal Kulik**, *Ottawa*.

2016-2018 **MSc in Statistics**, University of Ottawa, (Ottawa).

Title of the thesis **Extremal random matrices and hypothesis testing: Application in finance**.

Supervisor **Rafal Kulik**, *Ottawa*.

2014-2015 **Master 2 in Applied Mathematics**, *African Institute for Mathematical Sciences*, (Senegal).

Supervisor **Rafal Kulik**, *Senegal*.

Research Project

July (2022) **Research project (MATH INDUSTRY & AWESENSE), GRID CAPACITY FOR ELECTRIC VEHICLE CHARGERS**, *Canada*,

In this report, the goal was to answer the following question : How many electric vehicle (EV) chargers can we fit on a given grid infrastructure? This question depends on many factors: the structure of the grid, what part of the grid is of interest, what kinds of chargers can be fitted, what measures can be used to fit the chargers, and the load data for the grid. In this joint work, we have successfully solved the problem with an efficient strategy to fit an optimal number of electric vehicle chargers under a transformer without going over available capacity at max usage supported by a number of visualizations. Indeed, we provided optimal answers for different scenarios without overloading the grid which takes into account

- one single charger type.
- multiple charger type.
- multiple charger type with defined proportions of the power draw.

Using an application programming interface (API) that can take in live grid data. I successfully extract data via **SQL** from **Awesense's database**, processed and cleaned it before providing various visualization tools that reflects the hourly, daily, weekly, monthly and yearly behaviour under different scenarios at given time of the day using **python Jupyter notebook**.

September (2019)-January (2020) **Research assistant, Clustering of time series** , *University of Ottawa/ Ario*, Canada,
The research goal was to apply the existing classification and clustering methods to the financial time series provided by the industrial partner and/or simulated time series. Numerical studies were deployed to compare the performance of several clustering methods including (ARMA), wavelet selection and most importantly the feature based approach. These approaches perform most of the time well on nice and long data sets. However, they may perform very poorly on short or complex (different frequencies, variability etc.) time series. Throughout our experiments, we came to the conclusion that the **feature based approach** seems to work better than others and that most of the time, only **few features are relevant for clustering, but the set of the selected 'best' features is heavily data dependent**.

June (2020)-July (2020) **Research project, Anomaly detection and outlier analysis**, *Canada*,
In this report, we reviewed various anomaly detection methods in Python, with particular attention paid to both supervised and unsupervised methods, as well as an application to time series data.

Scholarly publications

September (2021) **Cissokho, Youssouph & Kulik, Rafal (2021)**, *Estimation of cluster functionals for regularly varying time series: runs estimators*, Electronic Journal of Statistics, 16. 10.1214/22-EJS2026.

May (2020) **Cissokho, Youssouph & Kulik, Rafal (2020)**, *Estimation of cluster functionals for regularly varying time series: sliding blocks estimators*, Electronic Journal of Statistics, 15. 10.1214/21-EJS1843.

Positions

January–May(2023) **Part Time Professor**, Collège universel -Campus Gatineau, Canada.

January–April(2023) **Part Time Professor**, *Department of Mathematics and Statistics*, University of Ottawa, Canada.

September–December(2022) **Part Time Professor**, Collège universel -Campus Gatineau, Canada.

September–December(2022) **Part Time Professor**, *Department of Mathematics and Statistics*, University of Ottawa, Canada.

May–July(2022) **Part Time Professor**, *Department of Mathematics and Statistics*, University of Ottawa, Canada.

September–December(2021) **Part Time Professor**, Collège universel -Campus Gatineau, Canada.

January–April (2020) **Part Time Professor**, *Department of Mathematics and Statistics*, University of Ottawa, Canada.

June–August (2019) **Part Time Professor**, Collège universel - Campus Gatineau, Canada.

January (2016)–December (2021) **Teaching Assistant**, *Department of Mathematics and Statistics*, University of ottawa, Canada.

Teaching Experience

January–May(2023) **201-NYB-05 : Calcul Intégral**, Collège universel - Campus Gatineau.

January–April(2023) **MAT4371 /SYST 5120: APPLIED PROBABILITY** , University of Ottawa, Canada.

January–April(2023) **MAT2377B: Probability and StaNsNcs for engineers**, University of Ottawa, Canada.

September–December(2022) **MAT1320: Calculus I** , University of Ottawa, Canada.

September–December(2022) **201-NYA-05 : Calcul differentiel**, Collège universel - Campus Gatineau.

September–December(2022) **201-313-UC : Algèbre lineaire**, Collège universel - Campus Gatineau.

May–July(2022) **MAT3172: Foundations of probability** , University of Ottawa, Canada.

September–December(2021) **201-NYB-05 : Calculus II**, Collège universel - Campus Gatineau.

September–December(2021) **201-313-UC : Calcul differentiel**, Collège universel -Campus Gatineau.

September–December(2021) **201-323-UC : Calcul integral**, Collège universel - Campus Gatineau.

January-April (2021) **MAT1741: Linear algebra**, University of Ottawa.

June-August (2019) **201-NYA-05 : Calculus I**, *Collège universel -Campus Gatineau.*

January-April (2020) **MAT1741: Linear algebra**, University of Ottawa.

2015-2018 **Teaching assistant at uOttawa**, *I have conducted several directed group discussions with first second year students in mathematics and statistics at Ottawa university.*

Undergraduate Courses **Teaching Assistant**, *MAT1308, MAT1302, MAT1300, MAT1320, MAT1322, MAT1330, MAT2322,MAT2377, and Working at Math and Stats Help Center*, in this list coded courses account for those taught at University of Ottawa.

Professional Affiliation

2016-to date **Member**, *American Statistical Association*, U.S.

2016-to date **Member**, *Statistics Society of Canada*, Canada.

Computer skills

Intermediate Julia

Python, R, SQL, Jupyter notebook, C++, C, Matlab, Latex

Languages

English	Fluent
French	Fluent
manding	Native
Arabic	Intermediate

Awards and Honors

2011-2018 Full scholarship for a M.Sc, African Institute for Mathematical Sciences, AIMS-Senegal

Hobbies

Computer sciences, programming, sport, reading, tennis, swiming

Reference

References – available upon request