

Florent ONANA ASSOUGA

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I am currently a student at the African Institute for Mathematical Sciences (AIMS) in Cameroon, pursuing a Masters in Mathematical Sciences. I have studied mathematics since my undergraduate studies, and I am particularly interested in applied mathematics, Statistics, Stochastic differential equations, Optimal Control, Financial Mathematics and computational/data science.

EDUCATION

Master's in Mathematical Sciences , AIMS, Cameroon	Aug 2023 - pres
Master-II of Mathematics , U. of Yaoundé I, Cameroon <ul style="list-style-type: none">Cumulative GPA: 3.77/4.00	Sep 2020 - Jan 2022
Master-I of Mathematics , U. of Yaoundé I, Cameroon <ul style="list-style-type: none">Cumulative GPA: 3.35/4.00	Sep 2019 - Jun 2020
DIPES II , High Teacher Training College, U. of Yaoundé I, Cameroon <ul style="list-style-type: none">Mean 13.5/20	Sep 2019 - Jun 2021
Bachelor's of Mathematics , U. of Yaoundé I, Cameroon <ul style="list-style-type: none">Cumulative GPA: 2.72/4	Sep 2018 - Jun 2019
DIPES I , High Teacher Training College, U. of Yaoundé I, Cameroon <ul style="list-style-type: none">Mean 15.28/20	Sep 2016 - Jun 2019

RESEARCH INTERESTS

- **Statistics:** Parametric Estimation, Nonparametric Estimation, Hypothesis Testing, Time Series, Copula, Survival Analysis, Bayesian philosophy
- **Finance:** Stock prices and Time Series, Portfolio allocation, Hedging, Stochastic Optimal Control, Risk management and quantification of Risk
- **Probability:** Markov chains and processes, SDE, Stochastic Analysis and Calculus
- **Differential equations , PDE, SPDE and numerics**
- **Computational Sciences:** Data science, Machine Learning, Life Insurance, data mining
- **Econometrics:** Time series econometrics, Panel Data, Kernel approximation, nonparametric regression

RESEARCH EXPERIENCE

Master-II Dissertation , U. of Yaoundé I, Cameroon	Jan 2022
<ul style="list-style-type: none">• Topic: <i>Estimating Non-linear Panel Data Models with One-way-error components</i> The main objective was to propose a nonlinear regression model between one interest variable and one vector of co-variables. We proposed a nonparametric estimator of the link function and analyze its properties (consistency, almost surely uniform convergence, and asymptotic normality) by taking into account the individual effects. We also proposed a nonparametric test on the form of that link function.	
DIPES II Dissertation , High Teacher Training College, U. of Yaoundé I, Cameroon	Jun 2021

- **Topic: *Estimating parameters in Stochastic Differential Equations (SDE) by using the Hermite-Spline-Cubic Approximation***

After exploring some cases where to computation of the exact transition density of diffusion process is possible, we proposed an approach of estimation of parameters of SDE in the case where this transition density is unknown. We used two methods: the first was due to Aït-Sahalia who used the Hermite polynomial expansion and the second one is the well-known spline-cubic approximation. From this approximation of the transition density, we used it to obtain the MLE estimators of our model.

TEACHING EXPERIENCE

Teaching assistant, U. of Yaoundé I, Cameroon **2022 - 2023**

- Probability, Statistics, Analysis, Algebra, Topology, Measure Theory and Integration for undergraduate students

Mathematics teacher, GSS DJONOU, Cameroon **2022 - 2023**

- Classes: 5ème, A2, A3, PF2-F3

Tutor, Intelligentsia Corporation (ICORP) **2022 - 2023**

- Helped students for entrance exams at top universities in Cameroon: Ecole Nationale Supérieure Polytechnique de Yaoundé ENSP (level 1&3), Ecole Nationale Supérieure des Travaux Publics ENSTP, Faculté de Médecine FMSB, ISSEA, EAMAU, ASECNA, IFORD.

Teaching internship, Lycée de Ngoa-Ekellé, Cameroon **2019, 2021**

- Classes : 6ème, 3ème, 2ndeA, Tle A4Esp and Tle C

COMMUNICATIONS

Invited speaker, Proba-Stat-Finance Lab, Cameroon **Feb 2023**

- **Talk title:** *Spectral Method of Non-parametric Estimation of drift and diffusion coefficient of SDE*

Invited speaker, U. of Yaoundé I, Cameroon **Jan 2022**

- Part of a joint workshop between the Mathematics Department and INP Toulouse
- **Talk title:** *Estimation des Modèles de Panel non linéaires à effets individuels*

Invited speaker, U. of Yaoundé I, Cameroon **Dec 2021**

- Part of the Second Cameroon Statistical Days (CSD2021): *A Tool for monitoring and Evaluation of Sustainable Development Goals in Cameroon*
- **Talk title:** *Estimation des paramètres dans les EDS par l'approximation Hermite-Spline-Cubique*

CONFERENCES AND SEMINARS

- **Proba-Stat-Finance Seminar MFA Lab**, Department of Mathematics University of Yaounde I, every Fridays at 10a.m.
- **Numerical Analysis Seminar FM Lab**, Department of Mathematics University of Yaounde I, every Fridays at 7a.m
- **LAGA Seminar Algebra and Geometry Lab**, Department of Mathematics University of Yaounde I, every Thursdays at half past twelve.
- **GIRAGA MFA Lab-FM Lab-Algebra and Geometry Lab**, Department of Mathematics University of Yaounde I.

ASSOCIATED SKILLS

Programming: Python , R , SageMath

Languages: English , French

Modeling: Statistical modeling, Financial modeling

Computers: Linux, LaTeX

EXTRACURRICULAR ACTIVITIES

Group member of "TYPSTESTER Alcohol Test Project", AIMS, Cameroon **Sept 2023**

- Project of entrepreneurship. We want to built a device that we help schools, companies and bus agencies.

Group member of "Robotics Education for Youth at AIMS Africa", AIMS, Cameroon
Nov 2023

- initiative to introduce robotics education to youth between the ages of 10 to 18years within the framework of AIMS (African Institute for Mathematical Sciences). The program will focus on providing hands-on experience and fostering a passion for science, technology, engineering, arts and mathematics (STEAM).

Founding member of "La Clef du Succès", U. of Yaoundé I, Cameroon **Jan 2021**

- To help, through special tutorial sessions, the undergraduate students at the university.

INTEREST AND ENTERTAINMENT

Sport: I enjoy soccer, tennis and gymnastics.

Reading: I am interested on theology, history of religions and peoples, poetry and novels. I am also interested in agriculture and like to learn about innovative techniques in the field.