

# Prudence Djabba (Ph.D)

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A dedicated and skilled researcher with experience in Mathematics, Machine Learning, Finance, and Science Education. Demonstrates excellence in advancing knowledge through impactful publications, innovative problem-solving, and interdisciplinary collaboration. Passionate about teaching Mathematics, Computer Science, and Quantitative Finance. To know more about me, please kindly refer to the following: Tap to access my Github profile , Tap my Google scholar profile and Tap to access my LinkedIn profile.

## RESEARCH EXPERIENCE

- **Lyman Briggs College, Michigan State University** **East Lansing, USA**  
*Visiting Scholar of Mathematics,*  
Host: Prof. Dr. Aklilu Zeleke  
Conduct research in Recursive polynomials, Diophantine triples equations, Computational chemistry  
**CREATE for STEM, Michigan State University** **East Lansing, USA**  
*Research aide,*  
Host: Prof. Dr. Kevin Haudek  
Conduct research on the use of AI in science education for analytic scoring.
- **Nelson Mandela University** **Port Elizabeth, South Africa**  
*Post-doctoral Research Fellow,*  
Host: Prof. Dr. Abraham Prins  
Conduct research in Group theory (Character tables) and Classical nearring modules.
- **African Institute for Mathematical Sciences (AIMS Rwanda)** **Kigali, Rwanda**  
*Post-doc Research visiting*  
Host: Research German chair Dr Jan Hazla  
Conduct research in Combinatorics.
- **Technical University Dortmund** **Dortmund, Germany**  
*Research visit*  
Host: Prof Amin Coja-Oghlan
- **African Institute for Mathematical Sciences (AIMS)** **Cape Town, South Africa**  
*Research visit*  
Host: Prof Barry Green
- **Stellenbosh University** **Cape town, South Africa**  
*Ph.D research study*  
Conduct research in the area of algebra focusing on nearfields, near-vector spaces, and subgroups.
- **Johannes Kepler University** **Linz, Austria**  
*Research visit, host: Prof Pilz Gunter*  
June 2019
- **Freiburg University** **Freiburg, Germany**  
*Research visit, host: Prof Amador Martin-Pizarro*  
April 2019-July 2019  
Conduct research in Model theory.

## TEACHING EXPERIENCE

- **Department of Finance, Michigan State University** **East Lansing, USA**  
*Assistant professor,*  
Chairperson: Prof. Simonov Andrew  
Teaching: FI 491/ FI 891 AI in Finance and Business.
- **Nelson Mandela University** **Port Elizabeth, South Africa**  
*Lecturer,*  
Teaching: Numerical skills for Business (BNS1011) and Algebra (MATT101/MATV111)
- **African Institute for Mathematical Sciences (AIMS Rwanda)** **Kigali, Rwanda**  
*Lecturer*  
January 2022-October 2022  
Providing general assistance to the director and the lecturers within the academic program in the Structured Master

courses. Teaching problem-solving classes and computer labs. Contributing to the assessment of student performance on a continuous basis.

- **African Institute for Mathematical Sciences (AIMS Ghana)** **Accra, Ghana**  
*Visiting lecturer in Programming with Python* **November 2022**  
I taught AIMS Structured Master students how to program, using the language Python as a vehicle and design space for the specification and development of programs.
- **École Supérieure Multinationale des Télécommunications (ESMT)** **Dakar, Senegal**  
*Lecturer in Digital Image Processing,* **October 2021- present**  
Give online courses, tutoring, and programming sessions along with the assessments for the departments and subjects listed below to the Master students at the Multinational School of Telecommunication.
- **Poly-technical School of Abomey Calavi (École Poly-technique d'Abomey Calavi)** **Cotonou, Benin**  
*Lecturer in Numerical analysis and Probability,* **February 2021- July 2021**
- **Institut National Supérieur de Technologie Industrielle (INSTI)** **Lokossa, Benin**  
*Lecturer,* **February 2021- July 2021**  
Give courses, tutoring, and programming sessions along with the assessments for the departments and subjects following, Algorithmic and Structured programming, Numerical calculus and optimization, Object Oriented Programming in C++.
- **National Water Institute (Institut National de l'Eau)-University of Abomey-Calavi** **Cotonou, Benin**  
*Lecturer in Numerical Methods, Matlab and R-Programming ,* **February 2021- June 2021**  
Give courses, tutoring, and programming sessions along with the assessments in the above-mentioned subject for students in the first year of Master of Water and Sanitation Engineering.
- **Faculty of Science and Technology-University of Abomey-Calavi** **Natitingou, Benin Republic**  
*Visiting lecturer,* **February-March 2021**  
Give courses, tutoring, and programming sessions along with the assessments for the departments and subjects: Second year of Mathematics and Computer science, Graph theory, Second year of Mathematics and Computer science, Dynamical System and differential equation, Multivariate Analysis.
- **École Supérieure Véréchaguine AK** **Cotonou, Benin**  
*Lecturer in Analysis, Probability and Statistics,* **December 2020- June 2021**  
Give courses and tutoring sessions along with assessments in the above-mentioned subjects for students in the first year of civil engineering.
- **École Normale Supérieure (Teacher Training Center)-UNSTIM** **Natitingou, Benin Republic**  
*Visiting lecturer,* **October 2020**  
Give courses, tutoring, and programming sessions along with the assessments for the departments of Mathematics and Computer Science in the subjects: Numerical methods (Third year), Vector analysis, and Complex Analysis (Second year).
- **African Institute for Mathematical Sciences (AIMS)** **Cape town South Africa**  
*Teaching assistant* **August 2019-June 2020**
  - Providing general assistance to the director and the lecturers within the academic program in the Structured Master courses.
  - Assisting with problem-solving classes and computer labs.
  - Providing group and personal tutorials where needed.
  - Preparing additional materials.
  - Contributing to the assessment of student performance on a continuous basis.
- **Stellenbosh University** **Cape town, South Africa**  
*Teaching assistant* **2017-2019**  
Assist students in problem resolution during tutorial sessions and monitor students during assessments. Mark the assessments of the students.
- **Teach me 2** **Cape Town, South Africa**  
*Private tutoring* **2017-2018**  
Help the students to improve their results and to have confidence in their study.
- **Stellies Tutoring** **Cape Town, South Africa**  
*Private tutoring* **2017-2019**  
Help the students to improve their results and to have confidence in their study.

## PROFESSIONAL EXPERIENCE

- **Jean Edwards Consulting** **Johannesburg, South Africa**  
*Quantitative Analyst* **2023**

- Active support in FRTB VaR Replication, PL Reconciliation, Excel spreadsheet-based, Risk Not in VaR (RNIV) modeling and Quantification, Taylor VaR expansion use in CVA and VaR driving-factor analysis
  - SIMM Implementation (Python) as per ISDA's specification including 1-day and 10-day component, Multi-versions, Back-testing module, and multi-jurisdictions processing.
  - FRTB Standardized Approach Implementation (Python)
  - BA-CVA and SA-CVA capital charge implementation
- TBC Sarl** **Abomey-Calavi, Benin Republic**  
*Web developer* **2013**  
 Dynamic web application development and administration of web server, Apache 2, DNS Debian (Linux)
- Benin Telecom** **Cotonou, Benin**  
*5 months internship* **2015**  
 Center of multimedia services, center telephone services, network access division, division transmission, transit (region switching center 2) division transmission, transit (cable station Submarine – SAT3).
- IPerform Technologies** **Cotonou, Benin**  
*2 months internship* **2014**  
 Administrator of database with MySQL, Oracle, php-my admin using UML, Crimp the cable rights, crossed, reversed with RJ45 connector and wall outlets.

## EDUCATION

- Stellenbosch University** **South Africa**  
*PhD in Mathematics* **2017-2019**  
 Dissertation on "Contributions to the theory of Beidleman near-vector spaces"
- Stellenbosch University & African Institute for Mathematical Science (AIMS)** **South Africa**  
*MSc in Mathematical Sciences, completed with distinction.* **2016-2017**  
 Dissertation on "Nearfield"
- University of Abomey-Calavi, Polytechnic school of Abomey-Calavi** **Benin Republic**  
*MSc (Engineer) degree network and telecommunication, completed with distinction.* **2010-2015**  
 Master's thesis: "Development of the contents of a teach-ware on: study and computation of the transmission lines (illustration by Smith chart)" supervised by Dr. Leopold Djogbe.
- International Graduate School of Ministry** **USA**  
*Master degree of Ministry in Leadership Development, President: Dr Henry Klopp* **2022-2025**
- Freiburg University** **Germany**  
*Short-term degree in Mathematical logic, summer semester* **2019**
- University of Abomey-Calavi, Faculty of Sciences and Technologies** **Benin Republic**  
*BSc in Mathematics* **2010-2014**
- University of Abomey-Calavi, Faculty of Sciences and Technologies** **Benin Republic**  
*DUES II (2 years university degree) in Mathematics-Physics* **2010-2013**

## TALKS AND POSTERS

- 9th Annual International Scholar Showcase, OISS** **Michigan State University, USA**  
*"Learning Progression-Guided AI Evaluation of Scientific Models to Support Diverse Multi-Modal Understanding in NGSS Classroom "* **April 2025**
- LBC Speaker Series Event** **Michigan State University, USA**  
*"Is AI Helping or Hurting Your College Education?"* **February 2025**
- Department of Mathematics (Cluster Algebra Seminar)** **Michigan State University, USA**  
*"Classical prime nearring modules"* **September 2024**
- 66 the Annual SAMS Congress** **University of Johannesburg, South Africa**  
*"Combinatorics of subgroups of near-vector spaces"* **December 2023**
- EPIC (Probability, Information Theory and Computing)** **TU Dortmund, Germany**  
*"On seed number of near-vector space"* **April 2023**
- Workshop in Discrete Mathematics** **AIMS Rwanda**  
*"On distributive set of a nearfield"* **July 2022**
- CIMPA UNESCO Chair** **University of Abomey-Calavi, Benin**  
*"On the R-subgroup"* **February 2020**

- **Institute for Algebra** **Johannes Kepler University, Austria**  
*"On EGE's algorithm"* *July 2019*
- **AAA 98 on General algebra** **University of Dresden, Germany.**  
*"The R-subgroup of the finite dimensional Beidleman near-vector spaces"* *July 2019*
- **Post-graduate seminar** **SU, South Africa**  
*"Classification of R-subgroups of the finite dimensional Beidleman near-vector spaces"* *October 2018*
- **CIMPA Research School** **AIMS South Africa**  
*"Linear mappings of Beidleman near-vector spaces"* *July 2018*
- **CIMPA Research School** **University of the Witwatersrand, South Africa**  
*"Introduction to the Theory of Beidleman Near Vector Space"* *January 2018*
- **Post-graduate seminar** **SU, South Africa**  
*"Presentation of the multiplicative group of finite Dickson nearfield"* *October 2017*

## WORKSHOPS AND SCIENTIFIC ACTIVITIES

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- **66th Annual SAMS Congress** **University of Johannesburg, South Africa**  
*(South African Mathematical Society)* *December 2019*
- **Jean Edwards Consulting** **Johannesburg, South Africa**  
*Quantitative analyst* *July-September 2023*
- **EPIC: Probability, Information Theory and Computing** **TU Dortmund, Germany**  
*Host: Prof Amin Coja-Oghlan* *April 2023*
- **African Early Career Researchers meeting** **University of Pretoria, South Africa**  
*November-December 2022*
- **Workshop in Discrete Mathematics** **AIMS, Rwanda**  
*Host: Research German chair Dr Jan Hazla* *July 2022*
- **International Mathematical Union (IMU)** **AIMS, South Africa**  
*February 2020*
- **62nd Annual SAMS Congress** **University of Cape town, South Africa**  
*(South African Mathematical Society)* *December 2019*
- **Department of Logic** **University of Freiburg, Germany.**  
*Research visit* *April 2019- August 2019*
- **AAA 98 on General algebra** **University of Dresden, Germany.**  
*(Arbeitstagung Allgemeine Algebra)* *July 2019*
- **Institut for Algebra** **Johannes Kepler University, Austria**  
*Research visit* *June 2019*
- **Research school in number theory** **University of the Witwatersrand, South Africa**  
*CIMPA,* *January 2018*
- **Research schools on "Topics in ring theory"** **AIMS South Africa**  
*CIMPA* *July 2018*

## PUBLICATION IN PEER REVIEWED JOURNAL

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- **P. Djagba, K-T Howell** *2020*  
*"The subspace of the finite-dimensional Beidleman near-vector spaces",*  
 Journal of Linear and Multi linear algebra, Volume 68, Pages 2316-2336, 2020, doi.org/10.1080/03081087.2019.1582610.
- **P. Djagba** *2020*  
*"On the generalized distributive set of a finite nearfield",*  
 Journal of Algebra, Volume 542, Pages 130-161, 2020, doi.org/10.1016/j.jalgebra.2019.09.020.
- **P. Djagba** *2023*  
*"Construction of a finite nearfield",*  
 IJNAA, Volume 14, Issue 10, Pages 155-161, 2023, doi.10.22075/ijnaa.2023.30795.4495.
- **P. Djagba, J. Hazla** *2024*  
*"Combinatorics of subgroups of Beidleman near-vector spaces",*  
 Journal of Mathematical Sciences, 2024, doi.org/10.1007/s10958-024-07405-5.
- **P. Djagba, A. Prins** *2024*  
*"On Linear Maps and Seed Sets of Beidleman Near-Vector Spaces",*

Palestine Journal of Mathematics, Vol 14(1)(2025), 195–212, arXiv:2310.05948.

**P. Djagba, S. Juglal**

- "On Classical prime near-ring modules", accepted to appear in *Communication in Algebra*, arXiv:2407.15853, 2024. 2024

**P. Djagba, J. Buwa**

- "Deep Transfer Learning Methods for the Detection and Classification of Diabetic Retinopathy Disease", IJRSI, Pages. 255-271 , Artificial Intelligence, <https://doi.org/10.51244/IJRSI.2025.12010023> 2024

**P. Djagba, A. Prins and M. Tounkara**

- "Character Table of the Multiplicative Group of Finite Nearfield", accepted to appear in *Journal of Mathematics and Statistics*. 2024

**L. Kaldaras, T. Li, P. Djagba, K. Haudek, J. Krajcik**

- "Learning Progression-Guided AI Evaluation of Scientific Models Integrating Writing and Drawing to Support Multi-Modal Knowledge In Use", Accepted and presented at the AERA Annual Conference in Denver, CO. April 23-27, 2025, <https://doi.org/10.3102/2188306> 2025

**L. Kaldaras, T. Li, P. Djagba, K. Haudek, J. Krajcik**

- "Learning Progression-Guided AI Evaluation of Scientific Models To Support Diverse Multi-Modal Understanding in NGSS Classroom ", Accepted and presented at NARST 2025 Conference (March.23-26, 2025) Washington DC, arxiv:2509.18157 2025

**P. Djagba, C. Ndizihime**

- "Pricing American Options using Machine Learning Algorithms", accepted and presented at APEF (December 11-12, 2025), Singapore, arXiv:2409.03204, 2025 2025

**P. Djagba, A. Zeleke and V. Rakotonarivo**

- "Hybrid Deep Learning Models for the Prediction of Some Experimental Quantities of Molecules " 2025  
accepted and presented at ICMLA (December 3-5,2025) Florida.

## PREPRINT MANUSCRIPTS

**M. Anwar, M. A. Morsy, P. Djagba and A. Zeleke**

- "A new family of Diophantine 3-Tuples" , to be submitted. 2025

**P. Djagba, A. Younoussi Saley and A. Zeleke**

- "Parameter-Efficient Fine-Tuning of Meta-Llama-3-8B-Instruct with QLoRA for Financial NLP on the FLARE Benchmark: A Comparative Analysis " , to be submitted. 2025

**P. Djaba, K. Haudek, C. Carlson, L. Kaldaras**

- " Optimizing AI Scoring of Scientific Explanations: Exploring Augmentation Strategies with Fine-Tuned Transformers ", submitted at NARST 2026 2025

**L. Kaldaras, C. Carlson, W. Tang, T. Li, P. Djaba, J. Krajcik, K. Haudek**

- " Learning Progression-Guided AI Evaluation to Support Feedback on Multimodal Scientific Modeling Tasks ", submitted at AERA 2026 2025

**P. Djagba, C. A. Odinakachukwu**

- "Assessing the Capabilities and Limitations of FinGPT Model in Financial NLP Applications", arXiv:2507.08015 2025

**P. Djagba, A. Zeleke**

- "On the Root Behavior and Representations of Generalized Fibonacci-Like Polynomials", under review 2025

**P. Djagba, A. Zeleke**

- "On Galois Groups of Some Recursive Polynomials", under review in *Miskolc Mathematical Notes*. 2024

**A. K. Adzika, P. Djagba**

- "Inference with K-means", submitted, arXiv:2410.17256. 2024

**P. Djagba, A. Sow**

- "SVM-Kernel Based Method for Satellite Image Classification", submitted. 2024

**P. Djagba**

- "On the center of a finite nearfield", submitted, arXiv:2003.08306 2021

## SUPERVISION

**African Institute for Mathematical Science (South Africa)**

**MSc, South Africa**

- "G-Learner and GIRL: Goal Based Wealth Management with Reinforcement Learning", Fermat Leukam, Co-supervised with Dr. Rock Stephane Koffi (Jean Edwards Consulting). July-October 2024

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|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
| <ul style="list-style-type: none"> <li>- <b>African Institute for Mathematical Science (Rwanda)</b><br/> <i>"Pricing American Options using Machine Learning Algorithms"</i>,<br/> Callixte Ndizihiwe.</li> </ul>                                                                              | <b>MSc, Rwanda</b><br><br><i>April-July 2024</i>  |
| <ul style="list-style-type: none"> <li>- <b>African Institute for Mathematical Science (Rwanda)</b><br/> <i>"Computation of delta risk charge for market risk under FRTB"</i>,<br/> Doricas Adonias Nyasomba, Co-supervised with Dr. Rock Stephane Koffi (Jean Edwards Consulting).</li> </ul> | <b>MSc, Rwanda</b><br><br><i>April-July 2024</i>  |
| <ul style="list-style-type: none"> <li>- <b>African Institute for Mathematical Science (Senegal)</b><br/> <i>"Rademacher Complexities"</i>,<br/> Marie Diop, completed.</li> </ul>                                                                                                             | <b>MSc, Senegal</b><br><br><i>April-July 2024</i> |
| <ul style="list-style-type: none"> <li>- <b>African Institute for Mathematical Science (Senegal)</b><br/> <i>"A Comparative Study on Multi-class SVM and Kernel Function for Satellite image Classification"</i>,<br/> Arame Sow, completed.</li> </ul>                                        | <b>MSc, Senegal</b><br><br><i>April-July 2024</i> |
| <ul style="list-style-type: none"> <li>- <b>African Institute for Mathematical Science (Senegal)</b><br/> <i>"Representation Theory of the Multiplicative Group of Finite Nearfield"</i>,<br/> Mamadou Tounkara, completed with Distinction.</li> </ul>                                        | <b>MSc, Senegal</b><br><br><i>April-July 2024</i> |
| <ul style="list-style-type: none"> <li>- <b>African Institute for Mathematical Science (Ghana)</b><br/> <i>"Deep Transfer Learning Methods for the Detection and Classification of Diabetic Retinopathy Disease"</i>,<br/> Jordan Buwa, completed with Distinction.</li> </ul>                 | <b>MSc, Ghana</b><br><br><i>April-July 2023</i>   |
| <ul style="list-style-type: none"> <li>- <b>African Institute for Mathematical Science (Ghana)</b><br/> <i>"Application of Deep Transfer Learning Methods On the Automatic Detection and Classification of Skin Cancer"</i>, Samuel Komlan Zanou</li> </ul>                                    | <b>MSc, Ghana</b><br><br><i>April-July 2023</i>   |
| <ul style="list-style-type: none"> <li>- <b>African Institute for Mathematical Science (Rwanda)</b><br/> <i>"The distributive elements of nearfield"</i>, Julien Bahimuzi, completed with Distinction.</li> </ul>                                                                              | <b>MSc, Rwanda</b><br><i>April-June 2023</i>      |
| <ul style="list-style-type: none"> <li>- <b>African Institute for Mathematical Science (Ghana)</b><br/> <i>"Learning and inference in k-means factor graphs"</i>,<br/> Alfred Kofi ADZIKA completed with Distinction, Co-supervised with Dr Alexander Nedergaard (ETH Zurich)</li> </ul>       | <b>MSc, Ghana</b><br><br><i>April-July 2023</i>   |

## LICENSE AND CERTIFICATION

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| <ul style="list-style-type: none"> <li>- <b>Center for the Integration of Research, Teaching and Learning</b><br/> <i>The College Classroom</i></li> </ul> <p>The Instructors for this course are: Beth Fleener (University of Texas at Arlington), Amanda Nolen (Georgia Tech) and Tiffany Shoop (Virginia Tech).</p> <ul style="list-style-type: none"> <li>· Explore inclusive, learner-centered teaching theories and practices.</li> <li>· Read and discuss literature on effective teaching and learning.</li> <li>· Apply evidence-based strategies to your teaching practice.</li> <li>· Create connections between learning objectives, assessments, and learning activities in order to build and teach a lesson plan.</li> <li>· Reflect on personal teaching values and decision making.</li> </ul> | <b>CIRTL</b><br><i>September-December 2025</i> |
| <ul style="list-style-type: none"> <li>- <b>Google</b><br/> <i>Google Data Analytics</i></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Coursera</b><br><i>September 2025</i>       |
| <ul style="list-style-type: none"> <li>- <b>Fractal Analytics</b><br/> <i>Generative AI for Business Consultants</i></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>Coursera</b><br><i>July 2025</i>            |
| <ul style="list-style-type: none"> <li>- <b>IBM</b><br/> <i>Generative AI for Product Managers</i></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>Coursera</b><br><i>July 2025</i>            |
| <ul style="list-style-type: none"> <li>- <b>Vanderbilt University</b><br/> <i>Generative AI Data Analyst</i></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>Coursera</b><br><i>June 2025</i>            |
| <ul style="list-style-type: none"> <li>- <b>Vanderbilt University</b><br/> <i>AI Agent Developer</i></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>Coursera</b><br><i>May 2025</i>             |
| <ul style="list-style-type: none"> <li>- <b>New York Institute of Finance</b><br/> <i>Introduction to Risk Management</i></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>Coursera</b><br><i>November 2023</i>        |
| <ul style="list-style-type: none"> <li>- <b>IBM</b><br/> <i>Exploratory Data Analysis for Machine Learning</i></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Coursera</b><br><i>November 2023</i>        |
| <ul style="list-style-type: none"> <li>- <b>Google</b><br/> <i>Foundations of Cybersecurity</i></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>Coursera</b><br><i>December 2023</i>        |

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|----------------------------------------------------------------|----------------------|
| - <b>New York University</b>                                   | <b>Coursera</b>      |
| - <i>Guided Tour of Machine Learning in Finance</i>            | <i>December 2023</i> |
| - <b>University of Michigan</b>                                | <b>Coursera</b>      |
| - <i>Gen AI in Business: Discover the Possibilities</i>        | <i>November 2024</i> |
| - <b>IBM</b>                                                   | <b>Coursera</b>      |
| - <i>Generative AI for Business Intelligence (BI) Analysts</i> | <i>November 2024</i> |

## PEER REVIEWING MANUSCRIPTS AND THESIS EXAMINATION

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| - <b>Journal of Mathematics and Statistics</b>                                                                                                                               | <b>Horizon Research Publishing, USA</b> |
| - <i>Peer reviewed journal</i>                                                                                                                                               | <i>August 2023</i>                      |
| - <b>International Journal of Nonlinear Analysis and Applications</b>                                                                                                        | <b>Semnan University</b>                |
| - <i>Peer reviewed journal</i>                                                                                                                                               | <i>August 2023</i>                      |
| - <b>Conference proceedings FSDM 2023</b>                                                                                                                                    | <b>Chongqing, China</b>                 |
| - <i>The 9th International Conference on Fuzzy Systems and Data Mining (FSDM 2023)</i>                                                                                       | <i>November 10-13, 2023</i>             |
| - <b>Conference proceedings MMBD2023</b>                                                                                                                                     | <b>Seoul, South Korea</b>               |
| - <i>The 4th International Conference on Modern Management based on Big Data (MMBD2023)</i>                                                                                  | <i>August 1-4, 2023</i>                 |
| - <b>AIMS Rwanda</b>                                                                                                                                                         | <b>MSc, Rwanda</b>                      |
| - <i>"Some Remarks on Recursive Polynomials and Their Generalizations"</i>                                                                                                   | <i>June 2023</i>                        |
| - by Richarlotte Valera RAZAFINDRAVOLA                                                                                                                                       |                                         |
| - <b>AIMS Rwanda</b>                                                                                                                                                         | <b>MSc, Rwanda</b>                      |
| - <i>"Congruent Numbers" by ONoe Muhindo Muyalo</i>                                                                                                                          | <i>June 2023</i>                        |
| - <b>AIMS Senegal</b>                                                                                                                                                        | <b>MSc, Senegal</b>                     |
| - <i>"Beta Regression, Multicollinearity, and Outliers: A Robust Estimation Approach with Application to Chemical Data" by Olalekan Taofeek Olaluwoye</i>                    | <i>March 2024</i>                       |
| - <b>AIMS Senegal</b>                                                                                                                                                        | <b>MSc, Senegal</b>                     |
| - <i>"Robust Assisted Negative Binomial Regression Modelling: Dealing with Multicollinearity and Outliers"</i>                                                               | <i>March 2024</i>                       |
| - by Wycliffe Nzoli Nzomo                                                                                                                                                    |                                         |
| - <b>AIMS Rwanda</b>                                                                                                                                                         | <b>MSc, Rwanda</b>                      |
| - <i>"Ecological niche modelling for risk prediction of swine fever diseases" by Marcy Audrey Demafo Nangmo</i>                                                              | <i>June 2022</i>                        |
| - <b>AIMS Rwanda</b>                                                                                                                                                         | <b>MSc, Rwanda</b>                      |
| - <i>"Modeling the Levels of Deprivation Across Small Geographical Areas of Covid-19 Pandemic: A Geographically Weighted Random Forest Approach" by Hassan Kehinde Ajulo</i> | <i>June 2022</i>                        |
| - <b>AIMS Rwanda</b>                                                                                                                                                         | <b>MSc, Rwanda</b>                      |
| - <i>"Machine Learning Global Risk Prediction Models for the Effect of Climate on Bovine Respiratory Diseases"</i>                                                           | <i>June 2022</i>                        |
| - by Joseph Kyelu Gwaka                                                                                                                                                      |                                         |
| - <b>AIMS Rwanda</b>                                                                                                                                                         | <b>QLA, Rwanda</b>                      |
| - <i>Reviewing PhD applications for the AIMS DTP in Data Science and its Applications</i>                                                                                    | <i>June 2022</i>                        |
| - <b>Fourth Celebration of Mathematics Pi-Day</b>                                                                                                                            | <b>University of Rwanda</b>             |
| - <i>Supervising the Mathematics Competition for secondary school students.</i>                                                                                              | <i>May 2022</i>                         |

## AMS MEMBERSHIP

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|----------------------------------------------------------------------|------------------------------|
| - <b>Affiliate membership to American Mathematical Society (AMS)</b> | <b>AMS, USA</b>              |
| - <i>Member ID: DJPRXA</i>                                           | <i>January-December 2023</i> |

## COMPUTER SKILLS

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- Programming skills: **C, Python, Sagemath, Singular, R-programming, SQL, MAGMA** and **Matlab** to solve mathematical problems.
- Use of Sagemath for the implementations of algorithms (discovered by me): EGE, AEGE and DSS.
- Conception of webpages with **Php-5, html, css3**.
- Analytical skills: Statistical modeling, Machine learning models, Data analysis.

## LANGUAGES

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- Fon: Mother tongue.
- French: Very good written and oral skills.
- English: Speak and write fluently.

## AWARDS

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- **2023** Award of two years Council-funded postdoctoral fellowship at Nelson Mandela University
- **2022** Award of German research grant by Alexander von Humboldt at AIMS Rwanda.
- **2022** Award of excellence at African Institute for Mathematical Sciences, Rwanda.
- **2020** Faculty of Science PhD Incentive Bursary, Stellenbosch University, South Africa.
- **2017-2019** DAAD scholarship for Doctoral studies at Stellenbosch University.
- **2016-2017** AIMS Structured Master scholarship by African Institute for Mathematical Sciences, South Africa.
- **2015** Admission to the ASECNA-EAMAC Competition in May 2015 for the meteorology engineer cycle (second order of merit of 5), Niger (Declined).
- **2010-2014** Scholarship in Mathematics at University of Abomey-Calavi, Department of Mathematics, Benin.
- **2010-2015** Half Scholarship at Polytechnic school of Abomey-Calavi, Benin.
- **2008** Award of best student in mathematics at the Association of Benin senior high school mathematic's teachers, Bohicon, Benin Republic.

## OTHER TRAINING

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|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| - <b>Michigan Driving license</b><br><i>D 900 001 610 959</i>                                                                                                                 | <b>Lansing, USA</b><br>2025            |
| - <b>Benin Driving license</b><br><i>Category B</i>                                                                                                                           | <b>Cotonou, Benin</b><br>2016          |
| - <b>Word of Faith Bible Institute</b><br><i>Leadership Certificate Course, Winner chapel (Lead Agency world wide)</i>                                                        | <b>Cotonou, Benin Republic</b><br>2016 |
| - <b>Word of Faith Bible Institute</b><br><i>Basic Certificate Course, Winner chapel (Lead Agency world wide)</i>                                                             | <b>Cotonou, Benin Republic</b><br>2015 |
| - <b>AJEDD (Association des Jeunes Envronnementalistes pour un Développement Durable)</b><br><i>Training in Animal Production "Poultry" and Crop Production "Agriculture"</i> | <b>Benin Republic</b><br>2015          |

## REFERENCES

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### USA.....

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**Prof. Dr. Gerhard Pfister**  
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Professor of mathematics  
Institute for Algebra  
Erwin-Schrödinger-Straße, D-67663 Kaiserslautern  
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*Prudence Djaaba*

03-18-2025