ARIEL GHISLAIN KEMOGNE KAMDOUM

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PROFILE

I am working on developing machine learning models and applying them to biological/medical data. My research basically focuses on novel biostatistical and machine learning methods for identifying genetic factors associated with complex diseases such as cancer and cardiovascular diseases.

RESEARCH INTERESTS

 Biostatistics, statistics, machine learning, computer vision, deep learning, optimization, bioinformatics, mathematical modelling.

EDUCATION

1- **PhD in Biostatistics,** *University of Calgary*, Canada (2022-**pres**)
 Supervisor: Dr. Thierry Chekouo Tekougang, Assistant Professor, Dept. of Mathematics and Statistics, Dept. of Biochemistry and Molecular Biology(Adjunct), University of Calgary in Canada.
 Supervisor: Dr. Quan Long**,** Assistant Professor of Bioinformatics, Cumming School of Medicine, Dept. of Biochemistry and Molecular Biology, Dept. of Medical Genetics, Dept. of Mathematics and Statistics (Adjunct), Alberta Children's Hospital Research Institute (Member), Hotchkiss Brain Institute (Member), O'Brien Institute for Public Health (Member), University of Calgary in Canada.

2- **Msc in Machine Intelligence,** *African Master's in Machine Intelligence (AMMI),* Ghana (2019-2021)
 Essay project: Optimization and Generalization of Shallow Neural Networks with Quadratic Activation Functions
 Supervisor: Moustapha Cisse, PhD, Head of Google AI center in Accra, Ghana. Founder and Director of AMMI.

3- **Msc in Mathematical Sciences**, *African Institute for Mathematical Sciences (AIMS),* Senegal (2018-2019*)*
 Grade: Very Good Pass
 Essay project: Abelian extension and crossed module for Lie algebras

Supervisor: Andre Saint Eudes MIALEBAMA BOUESSO, PhD, Marien Ngouabi University, Brazzaville , Congo

4- **Msc in Mathematics**, *University of Dschang (UDS),* Cameroon (2017-18)
 Rank in Class – (1st/14)
 Grade: Very Good Pass
 Essay project: (Co)homologie des espaces de configuration
 Supervisor: Calvin Tcheka, PhD, Dschang University, Cameroon

5- **Bsc in Mathematics and Computer Science,** *University of Dschang (UDS),* 2015/2016
 Rank in Class – (2nd/100)
 University of Dschang (UDS), Cameroon

SCHOLARSHIPS, GRANTS, AND AWARDS

1- University of Dschang(Cameroon), Special **Academic Excellence** (Paul Biya)
2- First overall **Best Graduating Student** of Master 2 in option Algebra (2018), Department of Mathematics and Computer Science, University of Dschang, Cameroon (2018)
3- Laureate at the **AIMS** Senegal (2018)
4- Mastercard Foundation Scholar, AIMS Senegal (2018-2019)
5- Google, Facebook scholarship, AMMI Ghana **(**2019-2020)
6- Laureate at the **AMMI** Ghana (2019-2020)
7- Young graduate student selected for the 6 months **AIMS Mathematical Sciences for Climate Resilience Internship Program (AIMS-MS4CR Internship Program)** (May 2021 - October 2021)

CONFERENCES AND FORUMS

1- Participants at **CIMPA (Centre International des Mathématiques Pures et Appliquées)** at Ecole Nationale Supérieure Polytechnique de Yaoundé**,** Cameroon (2018)

2- Young undergraduate researcher selected to participate in the **7**[th] **Heidelberg Laureate Forum,** Germany (2019)

3- Participant at **"Future of science"** conference**,** Kigali-Rwanda (2019)

4- Participant at the **11**[th] **Gene Golub SIAM Summer School,** on **"Theory and Practice of Deep Learning",** South Africa (July 2021)

5- Young graduate researcher selected to participate at the **8**[th] **Heidelberg Laureate Forum,** in digital due to the Covid-19 pandemic (2021)

SKILLS

1- Languages: English (Fluent), French (Fluent)

2- Computing Skills: Java, Python, PyTorch, MongoDB, Metabase, MySQL, SQL,NoSQL, R, Git,

Github, Excel, LaTeX, Matlab/Octave

3- Interests – Teaching, travelling, football, basketball, classical music

ONLINE CERTIFICATIONS

1- **Machine learning** *by Stanford University on Coursera*

2- **Introduction to Data Science in Python** *by University of Michigan on Coursera*

3- *Applied Machine Learning in Python by University of Michigan on Coursera*

4- **Natural Language Processing in Tensorflow** *by deeplearning.ai on Coursera*

5- **Mathematics for Machine Learning: Linear algebra** *by Imperial College London on coursera*

6- *Introduction to Deep Learning by NRUHSE on Coursera*

7- *Technical Support Fundamentals by Google on Coursera*

8- **Business Metrics for Data-driven companies** *by Duke University on Coursera*

WORK EXPERIENCE

1- Graduate Teaching Assistant, Faculty of Medicine and Dept of Mathematics and Statistics,
University of Calgary, Alberta-Canada, 2022 – **pres**

Key Activities:

GA(T)s are appointed to provide teaching or instructional service, which might encompass lecturing assistance, laboratory supervision, office hours, grading assignments, tutorial direction, assistance in preparation of demonstration and instructional aids, and other related academic duties.

2- **Teaching Assistant in Deep Learning and Neuroscience | Production Team Member,**
Neuromatch Academy Organisation (NMA) – USA, In-remote, 2022-**pres**

Neuromatch Academy is a massive, interactive, online summer school experience spanning from hands-on modeling experience to meta-science interpretation skills across just about everything that could be reasonably included in the labels "computational neuroscience" and "deep learning".

Key Activies:

Having substantial expertise in Python and experience with some aspects of neural data analysis and deep learning, I was working closely with a given pod for three weeks to help students solve problems and guide group projects.

3- Data Scientist Intern, Data Intelligence Department at ICRISAT-MANOBI Africa, Senegal, May-October 2021

Key Activities:

- I was working on delivering digital solutions and services for businesses, development projects and service providers in Africa's water and agricultural sectors.

- Using data intelligence, I was working on providing robust monitoring and evaluation reports, and sustainable management solutions.

- I managed, explored, analyzed, interpreted the data collected, to realize dashboards for decisions making, and for production purpose at Manobi/Africa.

4- Freelance Teacher in Data Science and Machine learning, *Hamoye Tutor Franchise Program,* Lagos-Nigeria Education, June-Dec 2020

Key Activities:

- To plan and structure individual learning experiences, including curriculum mapping, schemes of work and lesson plans

- To plan sessions with clear and suitable learning objectives that form part of the appropriate scheme of work

- To promote, facilitate and encourage individual learning and group learning

- To prepare sessions which build on previous learning and which encourage students to question

5- Data Engineer/MLops Intern, *Hamoye AI Labs,* 6-months Internship in remote, June-Dec 2020

Key Activities:

- I was in charge of following up once the machine learning model is built.

- I was putting the model into production, testing it to ensure it is working correctly, and optimize code for low latency. I was also making sure that the machine learning application is scalable and use tools like Docker and Kubernetes if required.

- As large amounts of data need to be processed quickly, I was ensuring that the application can handle the entering data.

- I was in charge of understanding model deployment on cloud platforms like GCP and have a strong command of automation technologies.

6- Global Intern in Data Analysis, *TakenMind Inc.,* 1-month Internship in remote, May-June 2020

Key Activities:

- Managing large amounts of data to build machine learning models and glean valuable insights

- Building models based on different use cases and creating models that was useful for the projects

- I displayed a unique ability to identify and solve problems in Data Analytics and Finance for studies purpose.

7- Office Intern, *Ma-dactylo,* Antananarivo-Madagascar, August-September, 2019

Key Activities:

- Assist in managing the flow of paperwork.

- Assist and facilitate staff as necessary - whenever and however needed.

- Assist with business development matters including marketing materials preparation

8- Teaching Assistant at Dschang University in Cameroon, *Department of Mathematics and Computer Science*, 2017-2018

Key Activities:

- Helping teachers create lessons plans

- Working with small groups of students to enhance the learning process

- Making sure classrooms are safe and tidy

9- Tutor in Secondary Schools, Mathematics || Physics || Chemistry, *Dschang in Cameroon*, 2017-2018

Key Activities:

I was working both in-home with students and in schools with small groups of students to enhance the learning process

REFERENCES

1- Moustapha Cisse, PhD, Head of Google AI center in Accra, Ghana. Founder and Director of the African Masters of Machine Intelligence (AMMI) at AIMS
Email: mcisse@aimsammi.org, moustaphacisse@nexteinstein.org
Role: Lecturer at AMMI Ghana (Foundation of Machine Learning and Introduction to DL)

2- Paul Taylor, PhD, Staff Scientist at National Institutes of Health, USA
Email: paul.taylor@nih.gov, pault@aims.ac.za
Role: Lecturer at AIMS Senegal (Introduction to Python programming)