

D'Jeff Nkashama

Curriculum Vitae

401-685, McGregor, J1L 1P4

Sherbrooke

Canada

☎ +1 438 530 6212

✉ djeffkanda@gmail.com

<https://github.com/djeffkanda>

Education

- 2021–Present **PhD in Computer Science**, *Université de Sherbrooke*, Canada.
Robust Deep Learning Models for Anomaly Detection.
- 2018–2019 **Master of Science in Applied Mathematics**, *University of the Western Cape*, South Africa, African Institute for Mathematical Sciences(AIMS) Structured Master's Program.
Project Title : "Search and Learn Strategies for Game Play".
- 2014–2016 **Honours Degree in Computer Science**, *University of Kinshasa*, Kinshasa.
Project Title : "On Supervised Learning: Support Vector Machine for Intrusion Detection. Application to unbalanced classes problem".

Experience

Vocational

- 2022 Jan–present **Teaching Assistant**, *Université de Sherbrooke*, Québec, Canada.
I am helping students in artificial intelligence (IFT-615) to understand their lessons better, and I am in charge of preparing assignments for the class. I am also supporting students to solve their class assignments by answering their questions.
- 2020 Jul–2021 Apr **Data Scientist**, *GSMA Mobile for Development Foundation*, London, UK.
The role consisted of working with mobile operators and the Congolese government to facilitate projects that apply mobile big data to help understand the situation and the impact of the COVID-19 disease and allow better and more timely decisions to be made.
- 2019–2020 **IT Developer**, *ITM Africa*, Kinshasa, DR Congo.
I have been placed at MKF Consulting DRC, where I worked as a full stack software engineer and data scientist.
- 2019 Sep–Nov **Data Scientist**, *PubCell Sarl*, Kinshasa, DR Congo.
I worked with software developers on data visualization and prediction for decision making . We collected and analyzed data related to people living with HIV in the DRC.
- 2016–2020 **Teaching Assistant**, *University of Kinshasa*, Kinshasa, DR Congo.
My role was to provide tutorship to computer science students on computer programming, operation research, and machine learning.

2016–2018 **Full Stack Software Developer(Part time)**, *SmartApps Company*, DR Congo/Kinshasa.

- Server Administration
- Lead Software Development Projects

Internship

2021 **Intern**, *Levio/Menya*, Sherbrooke/Canada, Data Scientist.
May–Aug I advised the Menya AI team on the development of an intrusion detection system for avionics networks. My work included the analysis of avionics networks traffic data, and I trained machine learning models for intrusion detection in such networks.

2019 **Remote Intern**, *Montreal Institute for Learning Algorithms (MILA)*,
Jan–Aug Montréal/Canada.

I worked on Multi-Agent Reinforcement Learning related problems under the supervision of Professor Aaron Courville.

Miscellaneous

2021–present **Volunteer**, *Université de Sherbrooke*, Canada, Guide.

I help new international students on their integration in Sherbrooke, by providing them assistance for activities on the campus, and to some extent (with the pandemic around) out of the campus.

2018–2019 **Volunteer**, *IkamvaYouth*, South Africa/Cape Town, Tutor.

The core of the program is tutoring. I tutored high school learners in mathematics to ensure they understood their school work.

2014–2015 **Volunteer**, *Team Work Technology*, DR Congo/Kinshasa.

The work consisted of providing computing skills to novice students in order to improve both their programming and algorithmic skills. I was the head of the team and a trainer.

Honors and Awards

Scholarship :- GRIC scholarship, 2021.

- ESMT-AIMS Scholarship for Business Management Training, 2019.
- MasterCard Foundation Scholar, 2018.

Awards :- Best Presentation at the Inaugural Conference at AIMS South Africa, 2019.

- Best Project from the ESMT Berlin-AIMS Training Presentation, 2019.

Computer skills

Operating : Linux, Windows, OSX.
System

Programming : Python, R, C/C++ .
Languages

Framework : Tensorflow, Pytorch, Pandas.

Languages

French: Native speaker.

English: Professional proficiency.

Lingala: Native speaker.

Publications

M. Alvarez, J.-C. Verdier, D. K. Nkashama, M. Frappier, P.-M. Tardif, and F. Kabanza, "A revealing large-scale evaluation of unsupervised anomaly detection algorithms," in *Workshop on Setting up ML Evaluation Standards to Accelerate Progress, International conference on learning representations*, 2022.

D. K. Nkashama, S. Arian, J.-C. Verdier, M. Frappier, P.-M. Tardif, and F. Kabanza, "Robustness evaluation of deep unsupervised learning algorithms for intrusion detection systems," in *Workshop on Machine Learning for Cybersecurity, International Conference on Machine Learning*, 2022.

T. Ecarot, D. K. Nkashama, M. Frappier, and P.-M. Tardif, "The anomaly detection systems defense weaponry for internal cyber threats in industrial control systems," in *Industrial Control Systems Joint Working Group (ICSJWG)*, 2022.

References

- o **Jean-Marie Tshimula, PhD**, Researcher at the Université de Sherbrooke, Co-founder of Greprova.
Phone: (+1) 819 640-8035
Email : jean.marie.kabamba.tshimula@usherbrooke.ca
- o **Charlie Harrison, PhD**, Technical Lead, AI for Impact, GSMA, London.
Phone: (+44) 7976 948691 | Email: charrison@gsma.com
- o **Jeff Sanders**, Professor and Academic Director at African Institute for Mathematical Sciences, South Africa.
Email: jsanders@aims.ac.za