Pavodi MANIAMFU

Ph.D. Student · Computer Science - Machine Learning Tsukuba City, Ibaraki-Ken, Japan.

(+81) 90-4725-0398

| pavodi.mani@fingervision.biz | pavodindoyi@gmail.com | s2330167@u.tsukuba.ac.jp



"Be the change that you want to see in the world."

Summary_

I am currently a Ph.D. student at the University of Tsukuba-Japan and a part-time Computer Vision Engineer in Tokyo. My research is related to the field of Neural Networks with application to physical system simulations. I have hands-on experience with various architectures of deep learning models. I am a very multicultural person speaking fluent French, English, Spanish, and some basic Japanese (including two local languages: Lingala and Kikongo).

Work Experience _

FingerVision

Computer Vision – ML Engineer (part-time contract)

- Developing and implementing data pipeline solutions, including internal data collection systems and custom annotation tools, streamlining the preparation of training datasets for computer vision applications.
- Successfully trained and evaluated multiple computer vision models for object detection, segmentation, and instance segmentation tasks, optimizing model performance and accuracy for production deployment.
- Conducting continuous research on state-of-the-art computer vision papers and methodologies, implementing novel approaches to improve model performance, and staying current with emerging object detection and segmentation trends.

Xen.AI Company

Data Scientist – ML Engineer (Intern)

- Developing and reviewing GitHub codes, which are susceptible to improving the solutions of the company
- · Contributing to the research and development of the company's AI solutions and products

Kinshasa University

Teaching Assistant

- Assisting the Main Professor in teaching courses related to Machine Learning, Web development, and programming practice.
- · Working in the computer laboratory to assist students with practical assignments.

ADAPA SARL

Spanish Translator

· Interpreting Spanish engineers into French to communicate with Congolese and Algerian engineers in installing the metallic structure of the building of the hospital in the eastern part of the country.

PSLS School

Database Manager and Teacher of Languages

- · Maintaining the database of the school of languages
- Teaching English, Spanish, and French
- · Supervising a staff of assistants and coordinating the main tasks of the school

DHI TELECOM GROUP

IT - Intern

- · Installing and monitoring the IP telecommunication service of the Internet Service Provider
- · Dealing with computer maintenance on defective stations of the clients
- · Installing and updating software programs on the computer stations of the clients

USA, Delaware 19958

Japan, Tokyo 135-0016

from October 21, 2024 to Now

from July 12, 2024 to September 30, 2024

DR Congo, Kinshasa

from September 2018 up to now

Oct. 3, 2018 - Oct. 30, 2018

DR Congo, Kalemi

DR Congo, Kinshasa

Jan. 2011 - Apr. 2017

DR Congo, Kinshasa

May. 2016 - June 2016

Education

UNIVERSITY OF TSUKUBA

- Ph.D. Second-Year Student Ongoing
- Degree Program in Systems and Information Engineering.

HGU (HANDONG GLOBAL UNIVERSITY)

Master's degree program in Technology Convergence

• I have completed a degree in Information and Communication Technologies.

KINSHASA UNIVERSITY

Bachelor's degree in Information System Design

• I have completed my bachelor's degree in Information System Design

Skills

Technical Skills

- Excellent Programming skills in Python and its Data Science libraries (Pandas, NumPy, PyTorch, etc.);
- Computer vision tools: OpenCV-python, YOLO models, etc.
- Sequence Models (RNN, LSTM, Transformer Architectures);
- Convolutional Neural Networks;
- Hyperparameters, Regularization, and Optimization in Machine Learning;
- Structuring Machine Learning Projects;
- Experience with Django Frameworks;
- Experience with Relational Database Systems: MySQL, PostgreSQL, etc.
- Data Visualization with Python library (Matplotlib);
- Experience in Deep Learning Frameworks (PyTorch, TensorFlow);
- Excellent Analytical and learning skills;
- Experience with Microsoft Office (Excel, Access, PowerPoint, Outlook, Word, etc.);
- Technical Knowledge of IT Support and Computer Networks;
- Experience with Version Control System: Git.

Practical Skills

- Ability to start initiatives;
- Integrity and Confidentiality;
- Desire to drive innovation and generate unique solutions;
- Growth and global mindset;

Soft Skills

- Written and verbal communication skills;
- Leadership skills;
- Ability to inspire others and support others' development to achieve full potential;
- Ability to adapt fast to a multicultural environment.

Publications

U. A. Md. Ehsan Ali, **Pavodi Ndoyi Maniamfu** and Keisuke Kameyama, "Efficient band reduction for hyperspectral imaging with dependency-based segmented principal component analysis," International Journal of Remote Sensing, Vol. 45, No. 24, pp. 9311–9337, <u>https://doi.org/10.1080/01431161.2024.2408493</u>, 2024.

Pavodi Ndoyi Maniamfu, U. A. Md. Ehsan Ali, Ko Sakai and Keisuke Kameyama, "Physics-Informed Antisymmetric Recurrent Neural Networks for Solving Nonlinear Partial Differential Equations," Proc. 31st International Conference on Neural Information Processing (ICONIP2024), (Auckland), 15 pages, Dec. 2024

Japan

South Korea

Aug. 2019 October 6, 2020

DR Congo, Kinshasa

Aug. 2013 – Aug. 2018

Pavodi Ndoyi Maniamfu, U. A. Md. Ehsan Ali and Keisuke Kameyama, "PINN with Antisymmetric RNN for Solving Nonlinear Partial Differential Equations," International Conference on Scientific Computation and Machine Learning 2024, 5 pages, (Kyoto), Mar. 2024.

Pavodi Maniamfu and Keisuke Kameyama. "LSTM-based Forecasting using Policy Stringency and Time-varying parameters of the SIR model for COVID-19", 2023 19th IEEE International Colloquium on Signal Processing & its Applications (CSPA), pp. 111-116. Link: <u>https://ieeexplore.ieee.org/document/10087773</u>

Vogel Kiketa, Hattie Kashoba, Selain Kasereka, **Pavodi Maniamfu**, David Kutangila, Frank Buhendwa, et al., "Design and Implementation of a Blended Learning System for Higher Education in the Democratic Republic of Congo as a Response to COVID-19 Pandemic", International Journal of Emerging Technologies in Learning (iJET). Link: <u>https://online-journals.org/index.php/i-jet/article/view/30185</u>

Jakin Kabongo, Mpovo Luzolo Clem's, **Pavodi Maniamfu**, and Dumbi Kamanda Louison, "Five Machine Learning Supervised Algorithms for the Analysis and the Prediction of Obesity", International Journal of Innovative Science and Research Technology, 7 pp. 1956-1964. Link: <u>https://www.ijisrt.com/five-machine-learning-supervised-algorithms-for-the-analysis-and-the-prediction-of-obesity</u>

Pavodi Maniamfu, Vogel Kiketa, Daniel Mwepu, and Jakin Kabongo, "Word embedding approach in a vector space based on Word2vec and FastText for Lingala Language Representation", Australian Journal of Science and Technology, vol. 6, no. 2, pp. 86-93, Jun. 2022. Link: <u>https://www.aujst.com/vol-6-issue-2.php</u>

Honors & Awards

DOMESTIC

Raw Bank Prize of recognition for distinguished students of the University of Kinshasa on August 31, 2018.

Conferences

International Conference on Neural Information Processing (ICONIP) December 2-6, 2024. Paper accepted and presented. Title: "*Physics-informed Recurrent Neural Networks for Solving Partial Differential Equations.*"

International Conference on Scientific Computing and Machine Learning 2024, poster presentation: "PINN with Antisymmetric RNNs for Solving Nonlinear Partial Differential Equations". Japan-Kyoto.

Machine Learning Summer School 2024, poster presentation: "Mitigating the limitations of PINNs from Architectural Perspectives". Japan-Okinawa.

IEEE International Colloquium on Signal Processing & its Applications (CSPA) March 2023, "LSTM-based Forecasting using Policy Stringency and Time-varying parameters of the SIR model for COVID-19". Malaysia.

ONLINE TRAINING

- Deep Learning Specialization (Coursera Platform)
- Google IT Automation with Python
- Google IT Support (Coursera Platform)
- Python specialization from Michigan University (Coursera Platform)
- Applied Machine Learning with Python from Michigan University
- Django for Everyone Specialization from Michigan University
- Digital transformation from Virginia University
- Data Science Bootcamp (Udemy)

Languages

- French
- English
- Spanish
- Japanese (basic knowledge)
- Lingala
- Kikongo

Public Profile URL

- <u>https://ieee-collabratec.ieee.org/app/p/pavodi-maniamfu</u>
- linkedin.com/in/pavodi-maniamfu-2a47441a2
- Currently building a personal Portfolio and blog but can still be accessed here: <u>https://manipavodi.blog/</u>