ENGELBERT
TCHINDE WAMBA

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OBJECTIVE

Engaged, rigorous graduate with a master in big data. Skills in data visualization, data cleaning, data modelling, experience in unsupervised and supervised machine learning algorithms, with a team spirit. Seeking to join Meta 2022-2023 AI Residency Program to deliver excellence, help engineer novel approaches.

EDUCATION

Master in Machine Intelligence | African Masters in Machine Intelligence, Senegal

JAN 2021 – PRESENT

Modules: Introduction to Machine Learning, Optimization for Machine Learning, Foundations of Machine Learning, Convolutional Neural Networks, Foundations of Deep Learning, Natural Language Processing (NLP), Reinforcement Learning, Computer Vision.

Thesis: Building a deep learning model for spatial data analysis (in progress)

Final Grade: Not available

Master's in mathematical sciences | African Institute for Mathematical Sciences, Senegal

2019 – FEB 2021

Modules: Data Science, High Dimensional Data Analysis, Data Engineering, Probabilitics and Statistics, Networking and Security, Elliptic Curves and Cryptography, Continuous Numerical Optimization.

Thesis: Cryptanalysis and algebraic computations: Gröbner basis-based cryptanalysis of cryptosystem and analysis of a multivariate public key scheme.

Final Grade: Very Good Pass (Above 80%)

Master's degree in mathematics | University of Dschang, Cameroon

2017 – 2019

Majoring in Applied Mathematics, Partial Differential Equations (PDEs)

Thesis: Black hole geometry of Reissner-Nordström.

Final Grade: Good Pass (Above 70%)

Bachelor's degree| University of Dschang, Cameroon

2014 – 2017

Majoring in Mathematics and computer science

RESEARCH INTERESTS

- Data Science
- Machine Learning
- Deep Learning
- Artificial Intelligence
- Data Analytics
- Data Mining
- Statistical Modeling
- Optimization

EXPERIENCE

Data Scientist | Philip Morris International, US

SEP 2021 – NOV 2021

The goal of the project is to use remote sensing to identify, classify farm fields in the target country. I used Google Earth Engine API to collect the preprocessing data (Sentinel and Landsat) in the selected area of interest. I visualized the data, compute the NDVI (Normalize Difference Vegetation Index) to know the vegetation indices of the area, then I come up with time series NDVI to know his variation over a certain time (this allows us to know the growing period of crops on the ground). I did some analysis like Trend and Seasonality to better understand time series NDVI. By using publicly available dataset, I build supervised machine learning algorithm to classify different farm fields in the target country. This result can help to identify different land surface in the target country in order to stay fucus on which area we want to work on. I also build an automate pipeline for this project.

Research trainee | SATWII Solutions, Canada

OCT 2020 – JAN 2021

The goal of the project is to find an innovative optimization algorithm to solve an optimal power flow problem. I studied the problem, evaluate the implementation result of three optimization algorithms and improve the best algorithm by tune his hyper-parameters. This work was done using MatLab.

Teaching Assistant | Association of Bansoa Students of Dschang, Cameroon

2018 – 2019

I helped students in the disciplines they encounter a lot of problem: Mathematics, Physics, taught classes in these disciplines, organized, advertised and published any event organized by the association.

Project Group Leader | University of Dschang, Cameroon

2015 – 2016

I created a static and dynamic web pages using HTML and CSS during our class project.

IT SKILLS

- **Programming Language**: Python Java, R, HTML & CSS
- **Software**: MatLab, SageMath, ArcGIS
- **Data Science**: Data Pipeline Modelling, Data Preprocessing, Data Cleaning, Data Visualization
- **Machine Learning**: Regression, Classification, Clustering, Tree Based Algorithms, Bagging, Boosting
- **Tools & Libraries**: Spacy, SciSpacy, Pandas, Sklearn, Jupyter, Anaconda, Numpy, Seaborn
- **Data Base**: Microsoft SQL Server, MySQL, PostgreSQL
- **Development tools**: Eclipse, Visual Studio Code, git
- **Operating systems**: Mac OS Sierra, Windows 10, Windows 7, Linux Centos

- **Deep Learning**: Neural Network, CNN, RNN, LSTM, Transformer architecture, PyTorch, Tensorflow, Keras, OpenCV

LANGUAGES

- English (Intermediate)
- French (Native)

STRENGTHS

- Passionate, Rigorous
- Motivated, Autonomous

PROFESSIONAL ONLINE TRAINING

Certificate of completion in Cybersecurity Essentials issued by Cisco Networking Academy

Badge in Cybersecurity Intro issued by IBM check here

Badge in Python issued by IBM check here

Certificate in Real-Time Cyber Threat Detection and Mitigation issued by Coursera check here

Certificate in Python Functions, Files, and Dictionaries issued by Coursera check here

Certificate in Introduction to Data Science in Python issued by Coursera check here

Certificate in Data Collection and Processing with Python issued by Coursera check here

COMPETITIONS PARTICIPATED

Certificate of participation in the PRAIRIE/MIAI Artificial Intelligence Summer School (5th - 9th July) | 2021

Participation on Zindi Hackathon in AIMS Data Science by Microsoft | 2021

For this competition, I create a predictive model to predict measure of wealth for different locations across Africa.

Participation on Kaggle challenge: Cassava disease classification | 2021

For this competition on classification cassava leaves, I try several models and I got my best score with the deep convolutional neural network model (VGG19-bn) by tune his hyper-parameters.

Certificate of participation in the cyber security hackathon issued by BeOpenIT in Senegal | 2020

Certificate of participation in the IT, IoT and security hackathon issued by ActInSpace in Senegal | 2020

AWARDS AND SCHOLARSHIPS

Masters Scholarship awarded by AMMI (African Masters in Machine Intelligence) in Senegal (2021)

Masters Scholarship awarded by AIMS (African Institute for Mathematical Sciences) in Senegal (2019)

Academic excellence award from University of Dschang (2015, 2016, 2017, 2018)

ORAL PRESENTATION

Oral presentation of my Master thesis at AIMS Senegal | February 2021

Oral presentation of our project of challenge ActInSpace at Dakar, Senegal | 2020

Oral presentation of my Master thesis at University of Dschang, Cameroon | July 2019

PROJECTS

Application of optimization to optimal power flow problem | Oct 2020-Jan 2021 template on overleaf

This project allows us to find an innovative algorithm which will be used to maintain the balance between the supply and demand of electricity.

Cryptanalysis and algebraic computations: Gröbner basis-based cryptanalysis of cryptosystem and analysis of multivariate public key scheme | May-July 2020 template on overleaf

This project allows us to know if it is possible to break some cryptographic schemes. Since its purpose is to analyze the security of a multivariate public key cryptosystem using Gröbner's bases, we showed using Gröbner's bases that it is possible to break cryptographic schemes when we have small key length.

Black hole geometry of Reissner-Nordström | March-June 2019

This project shows the behaviour of geodesics close to the black hole singularity whose geometrical framework is the Reissner-Nordström one.