



HENRI JOEL AZEMENA

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A few key words: NLP, Time Series, Anomaly detection, Explainable anomaly detection, IoT, Micro-controller, Robotic, Ethics, XAI, Ontology.

EDUCATION

Master of Science <i>Digital, Management Cognition</i> University of Lorraine, France	Sept. 2021 – Sept. 2022 IDMC, France
Master of Science <i>Intelligent & Multimedia Systems (IMS)</i> Vietnam National University, Vietnam/La Rochelle University, France	Sept. 2018 – May 2021 IFI, Vietnam
Bachelor Degree <i>Major: Mathematics and computer science</i> University of Dschang, Cameroon	Sept. 2010 – Sept. 2014 Cameroon

WORK EXPERIENCE

XAI Engineering Intern ICUBE Lab.	April 2022 – July 2022 Strasbourg, France
<ul style="list-style-type: none">• Worked on Smart Building time series data: Modeling an auto-encoder for anomaly detection.• Worked on Smart Building time series data: Formalising the anomaly concept for Smart Building.• Worked on Smart Building time series data: Proposing Hybrid approach to detect and explain anomalies.• Worked on Photovoltaic time series data: Proposing XAI solution for the Duck Curve Problem.	
AI Engineering Intern MIS Lab	May 2020 – Sept 2020 Hanoi, Vietnam
<ul style="list-style-type: none">• Localization of people and objects by image segmentation.• Modelling, simulation of the impact of WHO's anti-Covid-19 barrier measures.• Development of an organisation editor for coordination and evaluation of MAS and organisations based on the metrics of Grossi et al.	
Sentiment and emotion analysis(NLP) IDMC	Sept 2021 – April 2022 Nancy, France
<ul style="list-style-type: none">• Sentiment analysis with GloVe Vectors using comments collected on the allociné website.• Sentiment classification with CamemBERT implementation of a model that takes input comments (in French) and assigns to each one a positive or negative sentiment.• Sentiment classification with distilBERT implementation of a model that takes input comments (in English) and assigns to each one a positive or negative sentiment.	
Sentiment and emotion analysis (Signal processing) MIS Lab	2019 - 2020 Hanoi, Vietnam
<ul style="list-style-type: none">• Building an AI model to accurately detect the presence of Parkinson's disease in an individual using the Python libraries scikit-learn, numpy, pandas, and XGBoost (eXtreme Gradient Boosting).• Comparative study of machine learning algorithms for predictive sentiment analysis from electronic brainwave signals from an EEG headset and in temporal format• LSTM model to classify the EEG brain signal and to predict human emotions (negative, neutral and positive).	
Service provider Innovatech Association & Open IT & KTA	Sept 2015 – August 2018 Cameroon
<ul style="list-style-type: none">• Programming with microcontrollers, digital manufacturing, and manufacturing of intelligent objects.• Electronic programmer in the KOBD project in automotive maintenance.	

PROJECTS AND RESEARCH

Study of the impact of a contaminant in a mesocosm time series data <i>Python, SHAP</i> CSTB, SDC/ICUBE	Summer 2022
Exploratory time series data analysis of a mesocosm probes recordings <i>Python</i> CSTB, SDC/ICUBE	Summer 2022
XAI for time series anomaly detection and change prediction in SB <i>Python, SHAP</i> CSTB, SDC/ICUBE	Summer 2022
Ontology: Knowledge graph for the concept of anomalies in time series data CSTB, SDC/ICUBE	Summer 2022
Deep Learning: Proposal of an autoencoder for anomaly detection <i>Vanilla autoencoder</i> CSTB, SDC/ICUBE	SUMMER 2022
DL model for automatically classifying music genres from audio files IDMC/University of Lorraine	Summer 2022
Terminology and Ontology: Proposal for a domain-specific term identification system IDMC/University of Lorraine	Winter 2022
Wikipedia image/caption matching <i>Python, LSTM, Attention mechanism</i> IDMC/University of Lorraine	Winter 2022

CONFERENCES AND PUBLICATIONS

26th International Conference on Knowledge-Based and Intelligent Information & Engineering Systems: Verona, Italy & KES Virtual Conference Centre	7 - 9 September 2022
International Journal of Advanced Computer Science and Applications (IJACSA) - Volume 13 No 9	September 2022

TEACHING EXPERIENCE

IFI Solution: IFI Solution 3 months Teaching English for Computer Scientists Hanoi	Spring 2021 Vietnam
Innovatech Association (4 years: digital manufacturing and smart objects with Arduino) Yaounde	2015 - 2018 Cameroon
Fipi-education(2 Weeks Teaching Arduino) Bafang	Winter 2016, 2017, 2018 Cameroon

COMMUNITY INVOLVEMENT

Senior member at Innovatech Association Assistant, coordinator, and supervisor of various science education programs for young people	Since 2015 Cameroon
Member of FIPI-education Trainer and facilitator of science seminars and workshops for young students and teachers	Since 2016 Cameroon

SKILLS

Status: Master student, M.Sc. Digital Management Cognition, AI engineer
Languages: French (Native), Yemba(Native), Nufi(Native), English (Professional), Vietnamese(Beginner)
Fields: IA, NLP, Ontologie, Data Science, SMA, SIM
Stack: XAI, GML, AI, ML, NLP, Ontologie, SMA, Microcontrôleur, ODD
Tools: Anaconda, OWBO, Protégé, Owlready, Fritzing, Streamlit, Flask, Git
Programming: Python (Owlready, NLTK, spaCy, Pandas), C, Arduino, HTML5, CSS3, Java, NoSQL, CQLSH, Gama
Document Creation: Libre Office Suite, LaTeX
Tools: Lecture, Photographie, Jeux de stratégies et de Dames, Sport

CONTACTS FOR POTENTIAL RECOMMENDATIONS

Dr. Ali Ayadi: Senior Lecturer at the University of Strasbourg (my NLP master thesis advisors)

- **TEL:** +33 6 56 76 34 46
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Dr. Ho Tuong Vinh: Lecturer-Researcher at French-Speaking Institute of Computer Science (IFI), Hanoi, Vietnam (my ISM master thesis advisors)

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