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LEONIDAS MUGEMA

SUMMARY

Leonidas is a qualified person in the field of software development and Machine Learning, and has enough practical skills, which he gained through formal education and training. He has a good understanding of local and regional software development companies 'issues. The career objectives are to work in challenging environment with a view to develop a bright and successful career through practical application of academic work, life experience and general knowledge.

EDUCATION

Master's degree | Carnegie Mellon University

I am currently pursuing my master's degree in Electrical and Computer Engineering and majoring in software engineering and machine learning. (**Ending in 12/2022**)

- Data Analytics, Big Data, Data Inference and Applied Machine Learning, Introduction to Deep Learning, programming and Problem solving for Data Analytics, Design Pattern for smartphone Development, Foundations of software Engineering, Data Structures and Algorithms, Fundamentals of Software Development and Problem Solving (in Java), …

Bachelor's Degree | University of Rwanda, College of Science Technology

From 09/2012-07/2016, I graduated in a bachelor's degree in Electronics and Telecommunication Engineering with 74.27%.

- Object Oriented Programming in Java, Computer Programming in C and C++, Engineering Mathematics I, ll, lll and IV, Computer Architecture, Digital Communication, Mobile Communication, Computer Networks

Secondary Leaving Certificate | Ecole des Science Byimana

From 01/2009-11, I did courses in sciences (Math, Physics and Chemistry).

EXPERIENCE

Academic Software Engineering and Data Science projects| Carnegie Mellon University Africa
From 09/2021-Up to Now
AI and Data Science Projects

- **Multi-layer Perceptron for Phoneme Recognition** (Deep Learning Course)
  With 86% accuracy, a high-efficiency low parameter MLP network was created to identify Phoneme state labels using raw Mel spectrogram frames. PyTorch, Python.

- **Convolutional Neural Network for Face recognition and verification (Deep Learning Course)**
  Given an image of a person's face, the task of classifying the ID of the face is known as face classification. The system will be fed a face image, and it must predict the face's ID. The ground truth will be present in the training data, and the network will make a prediction using an N-way classification. A validation set is provided to the system in order to fine-tune the model. I ended up with the accuracy of 87%

- **Seasonal energy consumption (Data Analytics Course)**
  Finally, I concluded that when the energy is high, the temperature is low, particularly in the winter because of the heater. The energy level drops as the temperature rises, especially in the summer.

- **Recurrent Neural Network for Phoneme Recognition (Deep Learning Course)**
  This challenge uses speech data. The contest uses unaligned labels, which means that the correlation between the features and labels is not explicitly stated, and the model must figure this out on its own. As a result, the data will contain a list of phonemes for each utterance but no information about which frames correspond to which phonemes. The main task for this assignment will be to predict the phonemes in the test set utterances. The training data does not contain aligned phonemes, and producing alignment for the test data is not required. (On going project)

Software Engineering Projects

- **Pizzeria Configuration Application** (Design Patterns for Smartphone Development Course).
  In this project, I am responsible for developing a system that allows a Pizzeria to manage pizza orders. The system allows people to order from any Pizzeria in the world. (Technologies used: Java, Socket, Thread Pool, MySQL and many more)

- **Emergency Social Network** (Foundations of Software Engineering Course, Team project)
  The goal of this project was to provide civilians with a social network that they can use in times of emergency. The system differs from other existing social networks in that it is specifically designed to effectively support small communities of civilians who have been severely affected by natural disasters such as earthquakes, tsunamis, tornadoes, wildfires, and so on.(Technologies used: Nodejs, mongo dB, Reactjs, bootstrap ,CI/CD, GitHub, Heruko, Agile Development, ExpressJs)

- **Found Me** (Design Patterns for Smartphone Development Course, Team project).
  The project was inspired after seeing how many people in the cmu africa community lost or found items on campus and how difficult it was to easily find the owner of the item as well as post the communication for the founder. So, our app allows people who find items on campus to post them by photographing the item with the app's camera and posting it with details about where the item was found and anything else that might help the owner find it. (Technologies used: Restful API, OOP, JAVA, MongoDB, Android Studio, Bluetooth, GPS, Camera, Speaker, Microphone, light sensor, Screen Shot) (on going project)

Isezerano G Company | https://isezerano.rw/
From 03/2018-04/2020
- Responsible for the maintenance, configuration, and reliable operation of computer systems as well as database management.

Network Engineer Intern | New Artel
From 11/2016-04/2017

- Installation of internet for new client using WIMAX, VSAT and CISCO Technologies. Giving support to the customers who had internet connectivity. Providing weekly.

SKILLS

- **Languages**: Java, Python, ReactJS, HTML ,Bootstrap ,CSS,..
- **Machine Learning**: Pytorch, Pandas, Numpy, Sklearn
- **Visualization**: Searbon, Matplotlib
- **DataBase**: MongoDB, MySQL
- **Other**: GitHub

ACTIVITIES & CERTIFICATES

A. CERTIFICATES

- **Andela Technical Leadership Program Certificate**:
  The program aims at empowering Rwandese nationals to become world class software engineers. And blending in soft skills training that is essential for professionals. I got practical skills in PostgreSQL, Mongo dB, Express JS, Node JS, React/Redux JS, JavaScript.
- **UML and Object-Oriented Design Foundations Certificate:** from Udemy
- **PHP for Beginners Certificate**: How to build an Ecommerce Store from Udemy
- **Complete Web Developer Masterclass Certificate**: from Udemy
- **Machine Learning & Data Science Masterclass**: from Udemy

B. **LEARDERSHIP ACTIVITIES**

During my stay at campus in Undergraduate, I was the head of fundraising unit of students Social Affairs in University Biblical Group for three years.

REFERENCES:

❖ Christian Iradukunda

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