MANUEL ARNOL FOKAM

RESEARCH ENGINEER INTERN

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ACADEMIC EXPERIENCE

University of the Witwatersrand, Johannesburg. Mar 2022 - Dec 2023

M.Sc. (Dissertation) Computer Science

- **Activities:**
  - Organizer of the **RL Workshop** at the **Deep Learning Indaba 2022.**
  - Member of the **Procedural Content Generation** Interest Group.
- **Research Topic:** Adversarial Gradient-based Data Augmentation for Self-Supervised Learning.

University of the Witwatersrand, Johannesburg. March 2021 - Dec 2021

B.Sc. (Hons) Computer Science, (cum laude)

- **Research Topic:** Influence of contrastive Learning on Source Code Plagiarism Detection.

University of Buea, Cameroon. Oct 2016 - Dec 2019

B.Sc. Applied Physics (Minor Computer Science), GPA: 3.12/4.00

- **Activities:**
  - Academic Officer, University of Buea Association for the Advancement of Physics.
  - Course delegate, CSC208 (Programming in C and Python), PHY302 (Analogue Electronics Laboratory).
  - Team Member, Applied Physics Basketball Team (B-Sera Basketball Competition).
- **Final Year Project:** Introduction to Quantum Computing (Theory and Applications).

AWARDS

DeepMind Scholarship - University of the Witwatersrand, 2022.

Dean's List Honours - University of the Witwatersrand, 2021.

Postgraduate Merit Award- University of the Witwatersrand, 2021.

1st Prize InnovaTech Hackathon - Yaounde, Cameroon, 2020.

PUBLICATIONS

Michael Beukman, **Manuel Fokam**, Marcel Kruger, Guy Axelrod, Muhammad Nasir, Branden Ingram, Benjamin Rosman, Steven James (2022). **Hierarchically Composing Level Generators for the Creation of Complex Structures**
ArXiv (preprint)

Manuel A. Fokam, Ritesh Ajoodha (2022)**. Influence of Contrastive Learning on Source Code Plagiarism Detection through Recursive Neural Networks.**

2021 3rd International Multidisciplinary Information Technology and Engineering Conference (IMITEC).

Manuel A. Fokam (2022)**. Effects of Annotations' Density on Named Entity Recognition Models' Performance in the Context of African Languages**

ArXiv (preprint) Course project currently being turned into a publishable research paper.

PROFESSIONAL EXPERIENCE

Software Engineer Intern (Remote), Boostasoft (Startup), France (Feb 2020 – Feb 2021)

- Evolved in an autonomous environment where I learned to translate the stakeholders requirements into product roadmaps. In addition, I learned to evolve these roadmaps into deployable MVPs.
- **Technology Used:** Java (Spring Boot), JavaScript (React, React Native)
- **Learned Skills:** Project Management & Working in a Startup culture that favours autonomy.
- **Products built:** GetJobs Platform, CovidAlert App

PROJECTS

NER Annotations Density vs Pre-trained Language Models

- An analysis of the performance of **Language models** on **Named Entity Recognition (NER)** when the quality of the dataset is altered.
- **Tech Stack: Python** (Hugging Face, Jupyter Notebook)
- **Highlight:** Presented a poster of this work at the **Deep Learning Indaba 2022**.

Source Code Plagiarism Detector

- A source code plagiarism detector model that uses contrastive learning to identify similar code snippets.
- **Tech Stack: Python** (TensorFlow, Pandas)
- **Highlight:** Got the paper for this project accepted at an **African IT conference**.

COVID-19 infection segmentation from Pre-Trained encoders

- A performance analysis of U-Net with various pre-trained encoders on a medical image segmentation task.
- **Tech Stack: Python** (Pandas, NumPy, OpenCV, Jupyter Notebook)
- **Highlights:** Built a module to retrieve and preprocess of CT scans from the Cancer Imagine Archive API.

ON-GOING INITIATIVES

Creation of an AI Interest Group

- Establishing an interest group for students (especially post-graduates) sharing interests in learning industry-realted skills in the field of Artificial Intelligence.
- **Reason:** This is an excellent way to gain experience with AI tools and their application in real-world scenarios.

HOBBIES & INTERESTS

Chess BasketBall

SPEAKS

English (fluent) French (fluent)