Martílio BANZE

Mobile: +258 844330181 Email: martiliobanze@gmail.com URL: https://martiliobanze.github.io/

CAREER OBJECTIVE

High Performance Computing, Climate Modeling, Data Science and Quantum Physics

EDUCATION

2023 Bachelor (Hons) of Science in **PHYSICS AND MATHEMATICS**, *Pedagogical University of Maputo*

- **Thesis:** *Use of High Performance Computing to Solve Physics Problems*
- **Thesis Description:** *Developed a computational method using finite differences and implemented it in Python to solve the Schrödinger equation and studied the behavior of quantum systems in diverse scenarios by applying the developed method.*

2018 Bachelor (Hons) of Science in **METEOROLOGY,** *Eduardo Mondlane University-Physics Department.*

- **Thesis:** *"Mapping and Analysis of Patterns of Atmospheric Electrical Discharges Occurrence in Mozambique through the TRMM Satellite"*

- **Thesis Description:** *Utilized IDL (Interactive Data Language) to visualize and analyze data in the NetCDF4 format obtained from the TRMM satellite. Conducted a comprehensive study on the mapping and analysis of patterns of atmospheric electrical discharges occurrence in Mozambique. Developed visualizations to analyze the spatial and temporal distribution of lightning strikes, identify areas of high activity, and explore seasonal patterns. The research aimed to enhance understanding and mitigation of the effects of lightning in Mozambique. Date: 03/04/2018*

WORK EXPERIENCE

Present	**NATIONAL INSTITUTE OF ELECTRONIC GOVERMMENT, (INAGE, IP)** **HPC Administrator:** *Works as a High Performance Computing (HPC) administrator at the National Institute of Electronic Government. Has worked as a support scientist for the national academic and research community, and has experience in data science. Has experience in Python, Matlab and also the WRF Model. Has participated in several international and national science and technology conferences.*
Oct-2022	**INAGE, IP** *Main tutor of high performance computing in the training workshop* *The HPC training included parallel programming, high-performance system architecture, code optimization (scripts), and problem-solving at massive scales.*
May-2021	**DARA Project at UEM** *<www.dara-project.org>.* *Tutor of high performance computing* *It was an introductory training on Astrophysics and Space Sciences, with a focus on learning Linux (bash scripting) and Python for large-scale data analysis.*
2019-2020	**NATIONAL EMERGENCY OPERATIVE CENTER (CENOE, INGD)** *Intership* *Database and Data Analysis typically involves working with large amounts of data and I was responsible for tasks such as data cleaning, data entry, data analysis, and data visualization.*

2019	**BE-GIRL-MOÇAMBIQUE**
	Advanced MO-Excel Monitor: I served as a monitor for the advanced MO-Excel training program at BeGirl, where I provided support and guidance to employees seeking to enhance their skills in Microsoft Excel.
2018	**NATIONAL INSTITUTE OF METEOROLOGY (INAM, IP)**
	Intership
2016-2017	**MOVITEL, SA , MATOLA BRANCH**
	As an Asset Manager at MOVITEL, SA, a prominent mobile telecommunications operator, I successfully implemented and managed a comprehensive system for controlling goods, including stock management, recalls, and handover inventories. I optimized asset management processes, ensuring efficient operations and accurate documentation.

PROFESSIONAL TRAINING

Set-2022	*High Performance Computing (HPC) Practical Course, High Performance Computing Center of South Africa (CHPC).*
Mar-2022	*Advanced Network Management, INAGE, IP.*
2018-2020	*Basic training in Radio Astronomy, UEM and Hartebeesthoek Radio Astronomy Observatory (HartRAO), RSA.*
2019	*Linux and Python, CHPC-RSA.*
2018	*Adaptation to Climate Change and Disaster Risk Reduction, UEM/USAID.*
2016	*Arc-GIS for Natural Resource Management, UEM.*

WORKSHOPS

Nov-2022	*Training Workshop on WRF Model and Geographic Information Sciences, SADC (South Africa, Pretoria).*
2016	*Operations and Standards Tsunami Warning and Emergency Response Procedures in Mozambique, National Institute of Meteorology (INAM) in partnership with UNESCO.*

SKILLSET

Computer:	*Working knowledge of Python, GraDS, QGIS, MATLAB, OS: Windows and Unix/Linux, HTML, JavaScript, Latex, M.Office.*
Soft Skills :	*Excellent Public speaker, works well in team, good at problem solving*

REFERENCES

(i)   *Prof. Doutor F. Nehama, Assistant Professor and Senior Researcher at UEM:*
email: fialho.nehama@gmail.com
Cell:848261151

(ii)   *Dr. António Beleza, Senior Researcher and Program Officer Monitoring and Early Warning at SADC Humanitarian and Emergency Operations Centre:*
email: antoniobeleza@gmail.com
Cell: 827059560

(iii)   *Eng. Moisés Mucelo, Technical Manager of the MoRENet Academy:*
email: moises.mucelo@morenet.ac.mz
Cell: 843276940

mobile: (+258) 844330181   **email**: martilio.banze@morenet.ac.mz/martiliobanze@gmail.com