Victor Lumumba Wandera

Personal details

👤 Victor Lumumba Wandera

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🏠 109-60400 Chuka, Kenya
60400 Chuka Town

⚧ Male

🚩 Kenyan

🌐 beyonddataanalytics.online/#

❯ Data Scientist

Skills

Data Collection	●●●●○
Survey Administration	●●●●○
Statistical Analysis	●●●●●
Applied Statistics	●●●●●
Quantitative Research	●●●●○
Economics Knowledge	●●●●○
Data Visualization	●●●●●
Python Programming	●●●●○
SPSS	●●●●○
SQL	●●○○○

Profile

Victor Wandera Lumumba is a statistician and data scientist with expertise in machine learning, time series analysis, and applied statistics. He holds an MSc in Applied Statistics from Chuka University and a BSc in Economics and Statistics. His research focuses on predictive modeling for mental health, malaria forecasting, and financial market volatility. Victor has published multiple peer-reviewed journal articles and has presented at international research conferences including but not limited to 11th Annual International Research Conference at Chuka University and 6th Annual International Research Conference at Tharaka University. He has hands-on experience in statistical programming using R, Python, SPSS, STATA, and SAS, and has conducted workshops on machine learning, geospatial modeling, and time series forecasting. With experience as a university tutor for statistical modeling and data analytics, and a research data analyst, Victor is passionate about leveraging data-driven insights to solve complex challenges. He is an active member of the Kenya National Statistical Society and the International Biometrics Society.

Mission: My mission is to skillfully apply statistical and research expertise to generate actionable insights. As a dedicated statistician and an aspiring research officer, I am committed to conducting meticulous quantitative and qualitative analyses that empower informed decision-making. By employing cutting-edge methodologies, I strive to unravel meaningful patterns within data, contributing to the organization's mission of innovation and profitability. My mission extends to maximizing the value derived from available resources, fostering a culture of efficiency, and driving continuous improvement. Through my endeavors, I aim to be a catalyst for positive change, ensuring the organization remains at the forefront of data-driven excellence.

Vision: Aspiring to excel as a statistician, and pioneer innovative strategies that enhance organizational profitability and optimize resource utilization. Fueled by a passion for data-driven insights, I aim to employ advanced statistical methodologies to uncover patterns, drive informed decision-making, and contribute to the overall success of the organization. With a commitment to excellence, I seek to leverage my analytical skills and machine learning methodologies to propel the organization forward, ensuring efficient utilization of available resources and fostering a culture of continuous improvement.

Career Objective: Driven by a passion for statistics and research, my career objective is to become a highly proficient statistician, research officer, and data analyst. I aspire to leverage my analytical skills to contribute meaningfully to organizations by unraveling valuable insights from complex datasets.

Education

Bachelor of Science in Economics and Statistics Second Class Honours (Upper Division)   Sep 2016 - Dec 2020
CHUKA UNIVERSITY

- Admitted to the Degree at a Congregation held at this University on Friday 18th December, 2020

Master of Science in Applied Statistics   May 2023 - May 2025
CHUKA UNIVERSITY, CHUKA

Data Cleaning ●●●○○

R-Programming ●●●●●

Languages

English ●●●●○

Swahili ●●●●○

Hobbies

■ Machine Learning

■ Statistical Analysis

■ Programming (Python, R)

■ Data Visualization

■ Data Cleaning

■ Critical Thinking

■ Team Collaboration

■ Hiking

■ Reading

■ Traveling

Research Interests

- Modelling and forecasting Malaria-A concept in Machine Learning
- Modelling and predicting psychological mental health distress scores among university students in Kenya-A concept in Machine Learning
- Applied Statistics: Health sciences, Economic growth, Climate Changes
- Designs and Analysis of Experiment: Response Surface Methodology
- Time Series Analysis and Spatial temporal modelling in Machine learning
- Data science- Big data Analytics via Data Integration from multiple sources
- Optimal designs and their applications in Agriculture and other related fields

- Admitted to the Degree at a Congregation held at Chuka University on Friday 21st November 2025
- *Masters Thesis Titled: "Machine Learning Based Prediction of Psychological Mental Health Distress Among University Students in Tharaka Nithi County"*

Employment

Enumerator **Feb 2022 - Feb 2022**

Strathmore University, Nairobi

Participated in the millet subsequent (second phase survey) survey conducted by Strathmore University in collaboration with USOMI as the enumerator during the data collection.

Enumerator **Feb 2021 - Feb 2021**

Strathmore University, Nairobi

Participated in the millet baseline survey conducted by Strathmore University in collaboration with USOMI as the enumerator during the data collection.

Secretariate **Aug 2019 - Aug 2019**

Kenya National Bureau of Statistics (KNBS), Nairobi

Secretariate at the County level for the Kenya Population and Housing Census 2019, during the training of the content supervisors

Attachee **May 2019 - Aug 2019**

Kenya National Bureau of Statistics (KNBS), Nairobi

Attached at the Kenya National Bureau of Statistics (KNBS) in the Directorate of population and social statistics

Seminar, Conference and Workshops

2025 AMMNet Workshop on Malaria Modeling at CDAM **Aug 2025 - Aug 2025**

Hands-on Workshop for AI and Machine Learning Modeling on Malaria Prediction in Kenya, held at the Center for Data Analytics and Modeling (CDAM), Chuka University.

Advanced Biostatistical Methods: An Applied Workshop on Survival Analysis and Machine Learning in Health Research **Jul 2025 - Jul 2025**

Participated in the NAMBARI 8th workshop from 14th of July 2025 to 17th July 2025. NAMBARI is the Moi-Brown Partnership for HIV Biostatistics Training, and the Data Science for Social Determinants Program that hosted a four-day course on machine learning and predictive inference, with emphasis on topics in HIV. The workshop was conducted by Moi University in collaboration with Brown University (USA), Hasselt University (Belgium) and New York University (USA).

6th ANNUAL INTERNATIONAL RESEARCH CONFERENCE, Tharaka University. **Oct 2024 - Oct 2024**

Attended and presented a paper in the 6th ANNUAL INTERNATIONAL RESEARCH CONFERENCE, Tharaka University.

11th ANNUAL INTERNATIONAL RESEARCH CONFERENCE **Oct 2024 - Oct 2024**

Attended and presented a paper in the 11th ANNUAL INTERNATIONAL RESEARCH CONFERENCE, Chuka University.

Professional Bodies and Membership

- Member of Kenya National Statistical Society (KNSS)/The Statistical Society of Kenya- Member No. **752493**
- Member of International Biometrics Society, Kenya Chapter. Member No. **1508813**

NAMBARI-DSSD: Workshop on Advanced Biostatistical Methods: Machine Leaning for Real World Data	Oct 2024 - Oct 2024

Participated in the 7th Workshop on the Advanced Biostatistical Methods: Machine Learning for Real World Data held on 7th to 9th October 2024 at Eka Hotel Eldoret Kenya, hosted by Moi University /AMPATH in collaboration with Brown University (USA), Hasselt University (Belgium) and New York University (USA)

Mentorship for the Tidy Time Series and Forecasting Webinar Workshop in R	Oct 2024 - Oct 2024

Provided mentorship and guidance to trainees in a workshop focused on time series modeling and forecasting using R. Assisted participants in handling exercises related to time series analysis, helping them to develop advanced R programming skills and apply tidy principles for effective time series forecasting. The mentorship aimed to enhance trainees' capabilities in modeling and analyzing time series data, ensuring a practical understanding of the concepts covered

Malaria Modeling Workshop at Chuka University	Aug 2024 - Aug 2024

I participated in a workshop on Malaria Modeling using R software to develop practical skills to combat malaria within the Kenyan context. The workshop was held at Chuka University, Kenya

WASHA TAKWIMU Workshop	Jul 2024 - Jul 2024

Data Science Initiative for Africa (DSI-A) Training Program: A Short Course in Machine Learning for Health Data Science. University of Kawzulu-Natal Venue: Southern Sun Elangeni and Maharani hotel, 63 Snell Parade, North Beach, Durban, South Africa

AFRICAST workshop on tidy time series & Forecasting in R and Rstudio	Oct 2023 - Oct 2023

This workshop was part of the Forecasting for Social Good (F4SG) initiative, and was conducted online from the 23rd-27th October 2023. The objectives of the forecast were to preparing time series data for analysis and exploration, extracting and computing useful features from time series data and effectively visualizing it and finally identifying appropriate forecasting algorithms for time series and selecting the best approach for the data at hand.

NAMBARI-DSSD: Workshop on Advanced Biostatistical Methods: Machine Learning for Real World Data	May 2023 - May 2023

Participated in the 6th Workshop on the Advanced Biostatistical Methods: Machine Learning for Real World Data held on 3rd to 5th July 2023 at Noble Hotel Eldoret Kenya, hosted by Moi University /AMPATH in collaboration with Brown University (USA), Hasselt University (Belgium) and New York University (USA)

Publications in the Referred Journal

- **Lumumba, V. W.**, Muriithi, D. K., Oundo, M. (2025). Evaluating the Performance of Selected Single Classifiers with Incorporated Explainable Artificial Intelligence (XAI) in the Prediction of Mental Health Distress Among University Students. *American Journal of Artificial Intelligence*, *9*(2), 133-144. https://doi.org/10.11648/j.ajai.20250902.15
- Muriithi, D., **Lumumba, V. W**., Okongo, M. (2024). A Machine Learning-Based Prediction of Malaria Occurrence in Kenya. *American Journal of Theoretical and Applied Statistics,* 13(4), 65-72. https://doi.org/10.11648/j.

ajtas.20241304.11

- Wanjuki, T. M., **Lumumba, V. W**., Kimtai, E. K., Mbaluka, M. K., & Njoroge, E. W. (2024). Comparative Analysis of GARCH-Based Volatility Models of Financial Market Volatility: A Case of Nairobi Security Market PLC, Kenya. *European Journal of Mathematics and Statistics,* 5(4), 1–18. https://doi.org/10.24018/ejmath.2024.5.4.310
- **Lumumba, V. W**., Mutugi, T. W., & Adolphus Wagala. (2024). Forecasting of Monthly Crude Oil Prices in Kenya Using Comparative Time Series Models. *Asian Journal of Probability and Statistics*, *26*(9), 97–109. https://doi.org/10.9734/ajpas/2024/v26i9648
- **Lumumba, V. W.**, Kiprotich, D., Mpaine, M., Makena, N., & Kavita, M. (2024). Comparative Analysis of Cross-Validation Techniques: LOOCV, K-folds Cross-Validation, and Repeated K-folds Cross-Validation in Machine Learning Models. *American Journal of Theoretical and Applied Statistics*, *13*(5), 127–137. https://doi.org/10.11648/j.ajtas.20241305.13
- Muriithi, D. K**., Lumumba, V. W.,** Awe, O. O., & Muriithi, D. M. (2025). Explainable Artificial Intelligence Models for Predicting Malaria Risk in Kenya. *European Journal of Artificial Intelligence and Machine Learning*, *4*(1), 1–8. https://doi.org/10.24018/ejai.2025.4.1.47
- **Lumumba, V. W.**, Wanjuki, T. M., & Njoroge, E. W. (2025). Evaluating the Performance of Ensemble and Single Classifiers with Explainable Artificial Intelligence (XAI) on Hypertension Risk Prediction. Computational Intelligence and Machine Learning, 6(1). https://doi.org/10.36647/ciml/06.01.a004

University Tutoring and Data Analytics Experience

Data Analyst: Center for Data Analytics and Modeling (CDAM), Chuka University   **Aug 2024 - Present**

- **Student Performance Improvement**: Consistently helped students achieve significant improvements in their capstone projects, with many advancing to higher levels of statistical proficiency.
- **Mentorship and Guidance**: Provided ongoing mentorship, offering guidance on research projects, thesis work, and data analysis strategies using various statistical tools.
- **Diverse Student Engagement**: Worked with a diverse student population, including undergraduates, postgraduates, and professionals from various disciplines, ensuring a comprehensive understanding of statistical methods.
- **Workshops and Seminars**: Organized and led workshops and seminars on advanced statistical topics, contributing to students' deeper understanding of data analysis techniques
- **Feedback and Assessment:** Regularly provided detailed feedback on student work, including assignments and projects, to foster continuous learning and improvement in statistical analysis skills.

Tutor: Statistical Analysis and Modeling at Eco-Stat Club, Chuka University   **Jan 2021 - Apr 2023**

- **Extensive Tutoring Experience**: Over two (2) years of experience in tutoring students in statistical analysis, helping them master complex concepts and methodologies.
- **Proficiency in Statistical Software**: Proficient in teaching a wide range of statistical programs, including SPSS, STATA, EViews, Minitab, SAS, R, RStudio, Gretl, and more.
- **Customized Learning Plans:** Developed and implemented customized tutoring plans tailored to individual student needs, enhancing their

understanding and application of statistical techniques**.**

- **Hands-on Practical Sessions**: Conducted practical sessions that focused on real-world data analysis, allowing students to apply theoretical knowledge to actual data sets.

R and Python Programming Project

1. **Python Fundamentals & Data Handling** – Designed and delivered training on Python basics, Jupyter Notebook usage, and handling data types (lists, tuples, dictionaries, arrays), including importing, cleaning, and manipulating datasets with pandas.https://github.com/Lumumba1992/Python-Fundamentals-Data-Handling-
2. **Exploratory Data Analysis & Visualization** – Guided learners in performing EDA using summary statistics and visualizations with matplotlib and seaborn, including customization of plots for insightful data storytelling.https://github.com/Lumumba1992/Exploratory-Data-Analysis-Visualization
3. **Statistical Analysis & Hypothesis Testing** – Trained participants on hypothesis testing, correlation, regression analysis, ANOVA, and non-parametric methods using scipy and statsmodels.https://github.com/Lumumba1992/Statistical-Analysis-Hypothesis-Testing-
4. **Time Series Analysis – Introduced time series concepts, decomposition techniques, autocorrelation, and ARIMA modeling for forecasting, with practical hands-on sessions using real datasets.**https://github.com/Lumumba1992/Time-Series-Analysis-
5. **Machine Learning & Predictive Modeling – Provided foundational training in supervised and unsupervised machine learning techniques, including model building, evaluation, and interpretation for predictive analytics.**https://github.com/Lumumba1992/Machine-Learning-Predictive-Modeling-

References

Prof. Dennis K. Muriithi
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