ABYESIZA MUWANGUZI JOEL.
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PROFESSIONAL SUMMARY.
Driven by a deep curiosity for the mathematics behind technologies like Large Language Models, I am a problem-solver who thrives on applying quantitative skills to diverse challenges. In my two years of experience, I have delivered impactful projects ranging from financial tech to global health, including developing a custom trading bot and contributing biostatistical analysis to a study on vaccine hesitancy in Zambia, Uganda, and Tanzania. With extensive knowledge in R, Python, and JavaScript (React, Next.js), I am eager to contribute to a data-driven team. I am at my best in high-stakes environments, finding deep satisfaction in delivering critical work when it matters most. I take pride in everything I work on, so I always do my best because I know it has my name on it.

SKILLS.
- **Programming languages**: R intermediate level, Python advanced level (Pandas, Numpy, Scikit Learn, Tensor Flow, ggplot2, Matplotlib, Seaborn), SQL. JavaScript.
- **Statistical Software**: Stata, Rstudio, Jupyter lab, Jupyter Notebook. Power BI, Tableau. Visual Studio Code, PyCharm. Excel.
- **Statistical Methods**: Regression Analysis (Linear, Logistic), Hypothesis Testing, ANOVA, Time Series Analysis, Experimental Design, Sampling Techniques, Bayeshian, PCA.
- **Machine Learning**: Supervised Learning (Regression, Classification, Ensemble Methods), Unsupervised Learning (Clustering, PCA), Deep Learning, Natural Language Processing, Model Deployment.
- Database: SQL server, Convex, Postgress, Mongo DB.
- **Data Management** with tools like Freezerworks, Redcap, Google Forms.
- Other tools, Git, Jira, Word, Power Point, Google work space, Slack,

WORK EXPERIENCE/ PROJECTS.

Biostatistician | ASSESSING VACCINE CONFIDENCE AMONG ADOLESCENT GIRLS AND YOUNG WOMEN AT RISK OF HIV ACQUISITION LIVING IN UGANDA, ZAMBIA, AND SOUTH AFRICA.
- **Techniques:** Exploratory Factor Analysis (**EFA**) (Used to determine latent traits or factors in the Vaccine Hesitancy Scale), using Principal Component Factor (**PCF**) method and maximum likelihood (**ML**) method. **Descriptive Statistics:** Average scores, frequencies, and percentages were calculated for the items.

Statistician | TIME SERIES MODELING FOR ALGORITHMIC FOREX TRADING IN PYTHON | Trading bot
- **Techniques:** Feature Engineering (Moving averages), Classical Models(ARIMA; ARIMAX). **Machine Learning and Algorithmic Techniques. Algorithmic Development (** Writing and implementing the logic for the trading bot, including entry and exit signals based on statistical model outputs). **Performance Metrics** (Calculating and interpreting key metrics to assess the bot's profitability and risk)

Product Lead | Software developer | KOLABORATE PLATFORMS | 2024 November - Present.

- **Roles:** Communicating with clients and developers. Testing the Kolaborate Platform website to make sure everything is running well.

Intern | MEDICAL RESEARCH COUNCIL / UGANDA VIRUS RESEARCH INSTITUTE | 2023 (6 months) and 2024 (3 months).

- **Roles:** Worked in the data management office. With tools like Redcap. Where I analysed the collected data for data cleaning(That's accommodating for missing data and wrong data inputs). I used stata mostly

Intern | MEDICAL RESEARCH COUNCIL / UGANDA VIRUS RESEARCH INSTITUTE | 2024 (3 months).

- **Roles:** Worked in the BioBank department. With tools like FreezerWorks which stores records of samples(storage locations in the freezers). My role was to clean up the data being stored, making sure it's perfect and helping out with reports. Heavily automated the data cleaning process with Python. And worked on data visualizations with Power BI.

EDUCATION.
Bachelor of Science in Statistics | Kyambogo University, Kampala, Uganda | 2020 - 2024. Graduated in 2024 December 12th.

- Relevant Coursework: Probability and Statistics, Linear Algebra, Calculus, Data Structures, Algorithms, Exploratory Data Analysis, RStudio, Bayesian Analysis, Time series Analysis, statistical modeling. Sampling methods. And a lot more

Advanced Level Studies(Physics, Chemistry, Mathematics and subsidiary ICT) | St. Peters Nsambya, Kampala, Uganda | 2018 - 2019.

Ordinary Level Studies | Entebbe Secondary School | 2014 - 2017.

PUBLICATIONS & PRESENTATIONS

Paper about **ASSESSING VACCINE CONFIDENCE AMONG ADOLESCENT GIRLS AND YOUNG WOMEN AT RISK OF HIV ACQUISITION LIVING IN UGANDA, ZAMBIA, AND SOUTH AFRICA.**

CERTIFICATIONS
National Mathematics Contest | Twice and in my last one I managed to perform well though I didn't go to the next level.
School Water & Sanitation Clubs (SWAS). Certificate of participation in the competition.
ADVANCED LEVEL OF EDUCATION.
ORDINARY LEVEL OF EDUCATION.
BACHELORS DEGREE IN STATISTICS