Fridah Gechemba Machani, (Dr. rer. nat.)

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I am a data-driven problem solver with a unique blend of research expertise and data science skills. Equipped with strong analytical mindset, I extract valuable insights from complex datasets to empower evidence-based decisions that drive strategic impact and commercial value. My background in genetics and specialized training in data science enable me to offer a distinctive perspective, one that combines the precision of natural sciences with the strategic power of data analysis. My technical expertise spans Python, SQL, Power BI, and modern machine learning libraries like Scikit-learn and XGBoost. My passion for leveraging data to drive meaningful outcomes makes me a valuable asset in any data science role.

SKILLS

Python (Pandas, Numpy), SQL, Power BI, Data Analysis, Data Visualization, A/B Testing, Statistical Modeling, Customer Segmentation.

Machine Learning: Scikit-learn, XGBoost, TensorFlow.

Soft: Analytical problem-solving, project management, communication, cross-functional collaboration, adaptability.

PROFESSIONAL EXPERIENCE

Full-Time Parenting

03/2024 - present

- Completed advanced training in data science, machine learning, and analytics.
- Developed strong time management, multitasking, and prioritization skills as I
 had to balance learning with full-time childcare and household responsibilities.
- Enhanced adaptability, resilience, and problem-solving through handling sudden changes and navigating everyday parenting challenges.
- Developed high emotional intelligence and de-escalation strategies, which are critical for collaborative work and managing interpersonal dynamics.

Doctoral Researcher | Max Planck Institute of Molecular Plant Physiology 08/2020 – 09/2023, Potsdam Germany

Automated data cleaning, transformation, and analysis tasks across multiple

datasets, minimizing manual effort and enhancing productivity.

- Independently led a multi-year research project, managing all aspects from experiments to data collection, analysis, stakeholder reporting, risk mitigation, and adaptive planning.
- Used linear regression to estimate nitrogen levels and enzyme activity in leaves from real-world plant samples, helping to uncover how plants respond to nutrient availability.
- Utilized unsupervised machine learning (K-means, PCA) to cluster metabolites, correlated clusters to height, size, and gene expression data, uncovering nutrient-specific profiles, and key drivers of more yield.
- Analyzed how different nutrients (factor A) and genotypes (factor B) impact variables like height and size, and whether factor A depend on B, providing actionable insights on the exact combinations to target for improved yield.
- Data collection and analysis was a large part as key KPI such as height and size needed to be carefully analyzed to inform farmers which fertilization strategies can improve yield while reducing costs and pollution.

EDUCATION

Data Analytics with python | ReDi School of Digital Integration 03/2024 – 06/2024, Berlin, Germany

Data analytics with Python: Data manipulation (Pandas), filtering, grouping, exploration, and storytelling.

Data analytics with SQL: Querying, data analysis, visualization, and dashboard creation.

Dr.rer.nat. (PhD) Molecular Genetics | University of Potsdam

08/2020 - 27/09/2023, Potsdam, Germany

 Led independent research projects requiring advanced data analysis, statistical inference, and clear communication of results to technical and nontechnical audiences.

Master of Science Biotechnology | Kenyatta University

May 2015 - 08/2018, Nairobi, Kenya

Relevant Coursework: Statistics (regression, probability distributions, ANOVA), scientific data analysis, research methodology, inferential statistics.

ADDITIONAL TRAINING

Python, SQL, Power BI, and Machine Learning | DataCamp and Coursera 05/2024 - present, Online

LAGUAGES

English (Muttersprache), Deutsch (A1)