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# FRIDAH GECEMBA MACHANI

Berlin, Germany

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## SKILLS

Data Analysis, Data Visualizations, Statistics, Machine Learning, Statistical Modeling, Customer Segmentation, Process Improvement, Project Management, Adaptability.

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## TOOLS

Python, Scikit-Learn, XGBoost, TensorFlow, SQL, Power BI, Tableau, Excel, R, Git.

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## PROFESSIONAL EXPERIENCE

### **Data Scientist** | Freelance

07/2025 – Present

- Providing data-driven analysis and machine learning solutions to support client business needs using Python, SQL, and visualization tools.

### **Parental Break with Continuous Upskilling**

03/2024 – 06/2025

- Completed specialized training in data science, machine learning, such as **IBM Data Science** and **Machine Learning Specialization** by Stanford University & DeepLearning.AI.
- 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.

### **Doctoral Researcher** | Max Planck Institute of Molecular Plant Physiology

08/2020 – 02/2024, Golm, Germany

- Automated raw data cleaning, transformation, and statistical analyses using R scripts, reducing analytics time by 40% and enhancing productivity.
- Built easy-to-use models to estimate values like nutrient levels based on observable data, reducing the need for time-consuming and costly tests; enabled faster decision-making across 1,000+ cases.
- Optimized fertilizer use, reducing required amounts by 30% without compromising yield, ultimately cutting costs and supporting cost-effective farming.
- Analyzed how factor combinations influence KPIs like height and yield, delivering actionable insights on the exact combinations that improve yield by 10%.

- Segmented 30,000+ time-based metabolic data points, uncovered nutrient-specific patterns and early stress signals, enabling timely interventions to prevent yield loss.

#### **Doctoral Researcher** | Universität Münster IEB

*10/2019 – 05/2020, Münster, Germany*

- Boosted seed germination rates by up to 80% by identifying optimal exudate collection time through time-series analysis, enabling better insights into host-parasite interactions.

#### **Population Geneticist** | World Agroforestry Centre

*01/2017 – 04/2018, Nairobi, Kenya*

- Identified genetically identical trees, reducing unnecessary conservation efforts by 25% and saving up to 30% in maintenance costs.
- Improved breeding efficiency by 40% by clustering 200+ trees based on 50,000+ genetic features, enabling precise selection of diverse, high-performing cultivars.

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## EDUCATION

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#### **Data Analytics** | ReDi School of Digital Integration

*03/2024 – 06/2024, Berlin, Germany*

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

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

Basic Statistics such as, descriptive statistics, distributions, correlation, and sampling.

#### **Doktor der Naturwissenschaften (PhD)** | University of Potsdam

*09/2020 – 09/2023, Potsdam, Germany*

#### **Master of Science Biotechnology** | Kenyatta University

*05/2015 - 08/2018, Nairobi, Kenya*

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

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## CONTINUED LEARNING

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#### **SQL, Business Intelligence, Machine Learning & AI** | DataCamp and Coursera

*05/2024 – present, Online*

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## LANGUAGES

English (Muttersprache), Deutsch (B1)