# Ebenezer Ogoe

ebenezerogoe@gmail.com in/ebenogoe github.com/awkena/qrlabelr

## EDUCATION

**Master of Science in Agronomy (Plant Breeding and Genetics Specialization)** 08/2024 – Present
*University of Nebraska-Lincoln* Lincoln, NE
- GPA: 3.91/4.00 (current)

**Bachelor of Science in Agricultural Biotechnology (First Class Honours)** 08/2018 – 09/2022
*Kwame Nkrumah University of Science and Technology* Kumasi, Ghana
- Cumulative Weighted Average: 74.27/100

## EXPERIENCE

**Graduate Research Assistant** 08/2024 – Present
*University of Nebraska-Lincoln* Lincoln, NE
- Modeling genotype-by-environment interactions using statistical and simulation methods
- Partitioning genetic and environmental variance components using mixed models in ASReml and Echidna
- Designing and evaluating breeding strategies using AlphaSimR and APSIM Next Gen
- Tracking genetic variance and selection response across simulated dynamic populations

**Technical Operations Lead** 11/2023 – 06/2024
*Chaku Foods* Ghana
- Provided technical expertise for field data collection and analysis to generate insights
- Designed and deployed digital data collection tools (KoboToolbox) for monitoring field activities and farmer feedback
- Engaged directly with farmers during field visits to map farms and build connections

**Teaching Assistant** 09/2022 – 10/2023
*Kwame Nkrumah University of Science and Technology* Kumasi, Ghana
- Assisted final-year students in developing AI-based pedotransfer functions for estimating soil moisture regimes and hydraulic conductivity
- Supported students in building and evaluating machine learning models for soil property prediction
- Guided data interpretation, analysis, and dissertation documentation

**Intern** 09/2021 – 11/2021
*Council for Scientific and Industrial Research - Soil Research Institute* Ghana
- Conducted routine and non-routine physicochemical analyses of soil and plant samples
- Managed sample intake, labelling, and categorisation and maintaining traceable records
- Prepared calibration standards and working solutions

## PUBLICATIONS

Kena, A., **Ogoe, E.**, Cruet-Burgos, C., Agyare, R., Adoma, N., Annor, B., Raymundo, R., & Morris, G. (2024). Introducing *qrlabelr*: Fast user-friendly software for machine- and human-readable labels in agricultural research and development. *Gates Open Research, 8*, 28. https://doi.org/10.12688/gatesopenres.15268.1

Rice, B., **Ogoe, E.**, Charles, J. R., Melgar, E., Marla, S. R., Felderhoff, T., Fritz, A., Morris, G., & Pressoir, G. (2026). *Flywheel genomics: Simultaneous trait discovery and genetic gain in plant breeding* [Preprint]. bioRxiv. https://doi.org/10.64898/2026.08.03.742257

## PROJECTS

**Developer & Co-developer - Open-Source Software Projects** 05/2021 – 12/2022
*Kwame Nkrumah University of Science and Technology*

- Designed and implemented open-source tools like Genaxy, a suite for genetic data processing, and qrlabelr, a solution for generating print-ready QR code labels
- Implemented core functionality and ensured cross-platform compatibility through testing and iterative refinement
- Contributed to documentation, version control, and user support to facilitate adoption within the research community

**Team Lead - Educational Web Application Development** 08/2021 – 09/2022
*Kwame Nkrumah University of Science and Technology*

- Led the development of interactive web applications to support teaching in molecular genetics and systematics
- Designed and implemented tools for linkage map construction and molecular data clustering
- Coordinated project planning and execution, working with faculty and peers to translate domain concepts into functional digital tools

## SKILLS

**Quantitative Genetics and Data Analysis:** R; SAS; genomic prediction; G×E analysis

**Genomics and Bioinformatics:** PLINK, TASSEL LDAK, GWAS pipelines

**Machine Learning and Computational Methods:** Image analysis; deep learning (TensorFlow, Keras) and ensemble methods (RandomForest, XGBoost)

**Programming and Simulation:** Python, Bash, Linux, AlphaSimR, APSIM Next Gen

**Tools:** Git, HPC (SLURM), R Markdown/Quarto

**Professional Competencies:** Problem-solving, experimental design, data interpretation, scientific communication

## SCHOLARSHIPS & FUNDING

**Bill & Melinda Gates Foundation Scholarship** 08/2024 – 08/2026
*University of Nebraska-Lincoln*

**Ghana Scholarship Secretariat** 09/2020 – 08/2022
*Kwame Nkrumah University of Science and Technology*

**Kingdom Books and Stationary Bursary** 11/2019 – 10/2020
*Kwame Nkrumah University of Science and Technology*

## LANGUAGES

**English** — Fluent

**Twi** — Native

## INVOLVEMENT

**Agronomy and Horticulture Students Association, UNL** 05/2025 – Present
*Seminar Committee Chair* Lincoln, NE

- Coordinate and assist in the organization and hosting of departmental seminars
- Collaborate with faculty seminar committees to support planning and execution of seminar programs

**UNL-Bayer Hackathon 2025** 10/2025
*Team Member (BioAgriNerds)* Lincoln, NE

- Collaborated in a three-member team to evaluate maize germplasm and identify top-performing lines for advancement
- Applied genomic prediction methods to rank lines based on estimated genetic merit

**Nebraska Plant Sciences Symposium, UNL** 09/2024 – 05/2025
*Advertisement Subcommittee member* Lincoln, NE

- Collaborated with the department's media team and other subcommittees to promote the symposium
- Supported publicity campaigns and event communications across departmental and social media platforms
- Contributed to the successful planning and execution of an industry-sponsored (Corteva Agriscience) event

**Association of Agricultural Biotechnology Students, KNUST** 08/2021 – 09/2022
*IT/Media Committee Head* Kumasi, Ghana

- Directed IT and media operations, creating digital content and coordinating publicity across committees