MICHAEL KOJO ABALO

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EDUCATION

Bowling Green State University   *Bowling Grown, OH*
PhD Data Science (advised by Dr Hossein Moradi Rekabdarkolaee)   *08/2025 – present*
Research focus: *machine learning, deep learning, remote sensing, spatiotemporal statistics, computer vision.*

South Dakota State University   *Brookings, SD*
PhD Computational Science and Statistics   *05/2024 – 08/2025*
Master of Science in Statistics   *08/2022 –05/2024*

SKILLS

Proficient in Python (NumPy, Pandas, Matplotlib, Seaborn, Scikit-learn, TensorFlow, PyTorch), R (ggplot2, dplyr, tidyr, caret, shiny, Glmnet, mlr3, knitr, Lubridate, randomforest), Power BI, Excel, SQL, and currently learning SAS.

WORK EXPERIENCE

Graduate Research Assistant, Bowling Green State University   *08/2025 – present*
- Currently working on improving forage quantity and quality predictions by utilizing Federated Transfer Learning frameworks to enhance cross-site generalization.
- Working on early detection of pinkeye in cattle using YOLO-based deep learning models.

Graduate Research Assistant, South Dakota State University   *12/2023 – 08/2025*
- Applied machine and deep learning models to predict forage quantity and quality in real time, enhancing accuracy through comparative performance analysis.
- Developed advanced Python scripts to automate the extraction of remote sensing data from Google Earth Engine.

Credit Risk Analyst Intern, Vervent Card   *07/2023 – 04/2024*
- Wrote complex SQL queries to extract and analyze data across multiple databases, delivering report packages that informed strategic leadership decisions.
- Conducted in-depth analyses of delinquency metrics to assess credit programs and support profitability initiatives.
- Developed automated SQL alerts to improve the assessment of incoming credit card applications and help serve the underserved.

Graduate Teaching Assistant, South Dakota State University   *08/2022 –12/2023*
- Teaching Assistant for 4 courses, namely, College Algebra, Survey of Calculus, Mathematical Reasoning, and Differential Equations.

SELECTED PROJECTS

- **Credit Risk Predictive Model for Loan Default**
  - Developed and optimized credit risk prediction models using logistic regression and LDA, improving borrower classification accuracy through advanced data preprocessing, feature engineering, and model evaluation with Receiver Operating Characteristic (ROC), Kolmogorov-Smirnov (KS), and gains tables. (Github link)
- **Regression and Decision Tree Modeling of Body Mass Index (BMI)**
  - Modeled the relationship between eating habits, physical activity, demographics, and BMI using regression and decision tree techniques, achieving over 90% prediction accuracy through rigorous data preprocessing and variable selection via backward elimination. (Github link)
- **Causal Inference and Data Normalization in Crop Yield Analysis**
  - Analyzed the relationship between seeding rate and crop yield across multi-year corn and soybean datasets using spatial gridding and rank normalization in R. Implemented data cleaning, outlier detection, and causal network modeling (Bayesian DAGs) to identify inter-annual yield dependencies and seeding effects, improving the interpretability of spatial yield patterns. (Github link)

SELECTED CONFERENCES

- Michael, A., Brennan, J.R., and Moradi, R.H. Modeling Rangeland Forage Quantity and Quality Using Machine Learning Models and Remote Sensing Data. US Precision Livestock Farming Conference 2025. University of Nebraska-Lincoln, June 2-5, 2025, Lincoln, NE.
- Michael, A., Brennan, J.R., and Moradi, R.H. Modeling Rangeland Forage Quantity and Quality Using Machine Learning Models and Remote Sensing Data. 2025 Joint Statistical Meetings. American Statistical Association, August 2-7, 2025, Nashville, TN.

SELECTED LEADERSHIP AND SERVICE

- Member of PENSA BGSU Education Committee   *04/2025 – Present*
- Member of American Statistical Association (ASA)   *03/2024 – Present*
- Member of the International Association of Black Actuaries (IABA)   *03/2024 – Present*
- Volunteer: Data Science Symposium, South Dakota State University   *02/2023& 02/2024*