Benson Cyril Nana Boakye

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EDUCATION

Oregon State University   **Expected Graduation: May 2025**
Master of Science degree in Statistics CGPA 3.70/4.0   *Corvallis, Oregon*
Kwame Nkrumah University of Science and Technology (KNUST)   **August 2018 – September 2022**
Bachelor of Science in Actuarial Science, CGPA 3.8/4.0   *Kumasi, Ghana*

SKILLS

Programming Languages: Proficient in Python, R-studio, PostgreSQL, SAS.
Machine Learning & Technologies: Data Science pipeline(eg. Cleansing, wrangling, visualization, Predictive modelling, interpretation), Experimental Design, Clinical Data Standards (CDISC, SDTM, CDASH ADaM), Time Series, Hadoop, Tableau, Tensorflow, Excel, AWS, Neural Networks, MongoDB, Data Structures, Generalized Regression Models, and Survival Analysis.

EXPERIENCE

Graduate Teaching Assistant   **September 2023 – May 2025**
Oregon State University   *Corvallis, Oregon*
- Introduced experimental design principles (randomization, blocking, factorial designs) to optimize data collection and analysis (ETL processes), improving students' ability to evaluate and apply research methodologies by 20%.
- Integrated SVMs, Decision Trees, and Python libraries to streamline practical exercises, cutting preparation time by 40%
- Led recitation sessions for 500+ students on statistical methods using R, Python, & SAS, boosting performance by 15%.
- Ensured confidentiality, evaluated and gave constructive feedback, fostered critical thinking, and promoted collaboration.

Data Science & Machine Learning Summer Analyst - Intern   **September 2021 – November 2021**
Social Security and National Insurance Trust (SSNIT)   *Accra, Ghana*
- Applied unsupervised machine learning in python for anomaly detection on 2TB of data, reducing process time by 20%.
- Built predictive models in Python(Tensorflow) to improve customer behavior analysis, increasing relevance by 24%.
- Wrangled 11TB of trading data in Hadoop with Scala, visualizing 16 datasets for 500+ clients to track liquidity impact.
- Collaborated with teams to deploy Machine Learning solutions, speeding up feature rollouts by 10%.
- Communicated with executives to finalize required statistical analyses, summary tables, listings and figures (TLF's).

Actuarial Intern   **September 2020 – November 2020**
Social Security and National Insurance Trust (SSNIT)   *Accra, Ghana*
- Utilized Bayes software to calculate premium rates, assess liabilities, and deliver detailed regional premium summaries.
- Streamlined claims processing by 50% and optimized underwriting via the Accelerated Underwriting Project.
- Suggested QC measures which reduced risks by 15% through advanced dataset analysis and enhanced risk management.

PROJECTS

Survival analysis of treatment efficacy in Primary Biliary Cirrhosis (PBC) | *SAS*   **December 2024**
- Analyzed Cyclosporin A's effect on PBC survival using Kaplan-Meier, improving prediction accuracy by 15%.
- Implemented AFT and Cox models to assess survival, identifying high bilirubin and low albumin as key risk factors.

Predictive modeling and data analysis of breast cancer | *Python*   **November 2024**
- Designed and assessed 5 classification models (Logistic Regression, KNN, Random Forest, SVM with RBF kernel, and Gradient Boosting), achieving up to 94% precision in breast cancer through diagnosis using FNA image features.
- Achieved 98.25% accuracy in classifying breast cancer as malignant or benign using an SVM with an RBF kernel.

Modeling Female Sex Worker distribution in Sub-Saharan Africa for HIV prevention | *R-studio*   **October 2024**
- Deployed mixed-effects models (negative binomial, zero-inflated, poison, etc.) to analyze data, with an AIC of 2863.208.
- Applied REML estimation to confirm the inclusion of country, region, and dataYear as random effects ($p < 0.0001$).

Air quality analysis with R-shiny app | *R-studio*   **January 2024**
- Developed an interactive app to explore PM2.5 levels in cities across the USA and India, allowing users to analyze trends.
- Added event annotations, like COVID-19, to highlight air quality changes and guide public health decisions..

LEADERSHIP AND EXTRACURRICULAR

- **Administrative Office Specialist** | *Kidspirit-USA* | Streamlined office operations, ensuring efficient workflow.   **2024**
- **West Regional Welfare Head** |*GRASAG-USA*| Managed 700+ student resources, healthcare, and financial aid.   **2023**
- **Research Assistant** |*Dept. of Statistics-KNUST*| Led a team of 4, assigning tasks and ensuring timeline adherence   **2022**
- **Clubs and Societies President** |*KNUST*| Co-founded 7 clubs with 2000+ members and partnered with NGOs.   **2022**
- **Vice President** |*Actuarial Science Association*| Led 500+ members, and initiated a "Food Bank" for 30 students.   **2021**
- **Certifications** | Applied Data Science - World Quant Univ. | SAS Programming 1: Essentials | Data Science Foundation
- **Membership** |*American Statistical Association*| **2023 - Present**