

FRANCIS BOATENG

(561) 599-3198 · boatengfrancis3285@gmail.com · [LinkedIn](#) · [Portfolio](#) · [GitHub](#) · Boca Raton, Florida

OBJECTIVE

I'm a self-motivated data science enthusiast skilled in statistical programming, machine learning, and data visualization, looking for a Data Product Analyst role. I'm passionate about deriving actionable insights from data and committed to continuous learning to tackle new challenges effectively.

RELEVANT WORK EXPERIENCE

Graduate Research and Teaching Assistant

Aug 2022 – Present

Florida Atlantic University, Boca Raton, Florida

- Under Dr. Li's supervision, head circumference in pregnant women was analyzed using multiple linear regression, resulting in 89.54% predictability with a low infant birth weight dataset.
- Under Dr. Chang's supervision, a survival analysis was conducted on a non-randomized clinical trial (Grana et al., 2002) for malignant glioma. It revealed that novel radioimmunotherapy significantly improved patient survival.
- Instructs Methods of Calculus (MAC 2233-16B) course to 45 undergraduate students.
- Grades assignments and homework for over 40 undergraduate students while providing personalized support and fostering a supportive learning environment at the Math Learning Center, assisting students with math and statistics problems.

Actuarial Analyst

Oct 2021 – Jul 2022

StarLife Assurance, Accra, Ghana

- Retrieved, reviewed, cleaned, transformed, and modeled data for an experience analysis. The findings showed pricing and valuation adjusted mortality rate at 65% and AIDS rate at 10% for fiscal year 2022.
- Prepared data for assessing the company's actuarial liabilities and generated a premium summary by products, distribution channels, and regions, revealing that 55% of premium revenue stemmed from endowment products.
- Utilized Basys, an in-house actuarial software, to accurately calculate a competitive premium rate for an innovative insurance product tailored to market women.

Data Analyst Intern

Aug 2019

StarLife Assurance, Accra, Ghana

- Automated data cleaning and manipulation process before uploading to actuarial software, Basys, for pricing and valuation.
- Collected, analyzed, and evaluated data of individuals who purchased insurance policies, while also creating, maintaining, validating, and reconciling exposure and claims data to be ready for analysis.

PROJECTS AND RESEARCH EXPERIENCE

Stroke Data Analysis with R-Shiny - [GitHub](#)

- Conducted an in-depth exploratory data analysis on a stroke dataset, developed a machine-learning model to predict stroke probabilities, and created an interactive R-Shiny app. The app consists of three tabs: the first tab displays descriptive statistics of the stroke dataset; the second tab allows users to create custom visualizations and make inferences based on the dataset; and the third tab utilizes a generalized linear model (GLM) to predict stroke occurrence. [Click Here](#) to try the app.

Time Series Analysis of US Monthly Unemployment Rates

- Performed a concise time series analysis on US monthly unemployment rates from 1948 to 2022. Explored trends, seasonality, and patterns through data visualization. Employed ARMA models, selected the optimal model (ARMA (15,19)) based on AICC, and thoroughly analyzed residuals for normal distribution and lack of autocorrelation.

Dimensionality Reduction

- Applied principal component analysis (PCA) to an NBA dataset in R, revealing insights through data investigation. Utilized a biplot which visually demonstrated that 90% of players with the same position clustered at the same point and the dispersion of players with different positions.

Data Analysis of Diamond Attributes: Cut, Carat, and Price - [GitHub](#)

- Analyzed intricate links among diamond qualities: cut, carat, and price. Utilized regression and visuals to unveil key trends. Results highlighted carat weight and cut's significance in pricing. The model's R-squared of 0.8565 showed 85.65% predictability in diamond prices via carat and cut.

EDUCATION

Master of Science in Mathematics

Expected May 2024

Florida Atlantic University, Boca Raton, Florida

CGPA: 3.833 / 4.0

Bachelor of Science in Actuarial Science

Sep 2021

Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

CWA: 76.65 / 100

TECH SKILLS

Programming: R (dplyr, ggplot2, tidyr, caret, shiny), Python (NumPy, Pandas, Scikit-learn, Matplotlib), Machine Learning, SQL.

Business Analytics: Statistical Modeling, Data Visualization, Data Organization, Data Processing, Tableau, Power BI, Excel.

Other Skills: Analytical Thinking, Communication, Team Player, Entrepreneurial.

Interest: Artificial Intelligence, Deep Learning, Generative AI.