

# FRANCIS BOATENG

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

## WORK EXPERIENCE

**Florida Atlantic University**, Boca Raton, Florida

Aug 2022 – Present

*Graduate Teaching Assistant*

- 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.

**StarLife Assurance**, Accra, Ghana

Oct 2021 – Jul 2022

*Graduate Actuarial Trainee*

- Reviewed, cleaned, transformed, and modeled the data to conduct an experience analysis. The results revealed that the adjusted mortality rate and AIDS rate for pricing and valuation purposes stood at 65% and 10%, respectively, for the fiscal year 2022.
- Utilized Basys, an in-house actuarial software, to accurately calculate a competitive premium rate for an innovative insurance product tailored to market women.
- 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.

**StarLife Assurance**, Accra, Ghana

Aug 2019

*Intern*

- Automated data cleaning and manipulation process before uploading to actuarial software, Basys, for actuarial modeling.
- 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

**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. This app facilitates data-driven research, empowering users to make informed decisions based on valuable intuition gained from the data. [Click Here](#) to try the app.

**Novel Radioimmunotherapy Patients Survival Analysis** - [GitHub](#)

- Conducted survival analysis based on Grana et al. (2002) study, a non-randomized clinical trial on novel radioimmunotherapy for malignant glioma. Assessed survival times of treatment and control groups, constructed survival curves, and utilized log-rank tests. Concluded that patients treated with the novel radioimmunotherapy had significantly longer average survival times compared to the control group, indicating its potential effectiveness in improving patient outcomes.

**Dimensionality Reduction**

- Applied principal component analysis (PCA) to an NBA dataset in R, revealing insights through data investigation. I utilized a biplot that 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.

**Data Collection App for Clinical Trial** - [GitHub](#)

- Developed an R-Shiny data collection application for a clinical trial project, facilitating the acquisition of participant data on sleep quality. Captured vital details such as participant ID, demographics, and baseline traits. The data was used to assess the efficacy of nutritional supplements in ameliorating sleep quality among adults facing self-reported sleep issues. [Click Here](#) to try the app.

## EDUCATION

**Florida Atlantic University**, Boca Raton, Florida

Expected May 2024

*Degree: Master of Science in Mathematics (Conc. in Biostatistics)*

GPA: 3.833 / 4.0

**Kwame Nkrumah University of Science and Technology**, Kumasi, Ghana

Sep 2021

*Degree: Bachelor of Science in Actuarial Science*

CWA: 76.65 / 100

## TECH SKILLS

**Programming:** R (dplyr, ggplot2, tidyr, caret, shiny), Python (NumPy, Pandas, Scikit-learn, Matplotlib), SAS, PostgreSQL, MySQL, Big query.

**Business Analytics:** Business Intelligence, Statistical Analysis, Data Visualization, Data Cleaning, Tableau, Power BI.

**Office Suite:** Proficient in Microsoft Office Suite, especially Excel, including VBA, PowerPoint, and Word.