FRANCIS BOATENG

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WORK EXPERIENCE

Florida Atlantic University, Boca Raton, Florida — Aug 2022 – Present
Graduate Teaching Assistant

- Instructs Methods of Calculus (MAC 2233-16B) course.
- 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, cleansed, transformed, and modeled data for experience analysis with the objective of discovering useful information, advising conclusion, and supporting decision making within the organization.
- Utilized Basys, an in-house actuarial software to determine the premium rate that should be charged to cover the risk exposure fully.
- Prepared data for determining the company's actuarial liabilities and provided a premium summary based on products, distribution channels, and regions.

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 players within the same position group exhibited an average clustering of around 80%, highlighting the tendency of players with similar roles to share common characteristics. Conversely, players from different positions showed a dispersion of about 20%, emphasizing the diversity in attributes across distinct player roles.

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: 3.83 / 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.