NICHOLAS DADZIE

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>> DATA SCIENCE | MACHINE LEARNING

MOTIVATION

I am excited about solving business problems using data analytic tools, statistical modeling and machine learning algorithms. I systematically and creatively use my skillset, background and communication skills to add substantial value to the team, the business and the end-user. To maintain this perspective, I am always learning, and seeking opportunities to improve.

SKILLS & TOOLS

Programming: Python (Base, Pandas, Numpy, Matplotlib, Scikit-Learn, Keras), SQL, R, SAS

Machine Learning: Linear Regression, Logistic Regression, Decision Trees, Random Forest, KNN, k-means, PCA, Association Rule Learning, Causal Impact Analysis

Other: Statistics, Github, Data Visualisation, Minitab, Eviews, STATA, MS Office, Tableau, Jupyter Notebook, Google Office Suite

EXPERIENCE

Senior Lecturer-AED Economics, Ohio State University

JULY 2018 - PRESENT

- Facilitated students to design and build machine learning projects using R, and SAS to address specific research problems
- To measure the impact of a new procurement policy on smallholder farmers, I used before and after data to build a panel dataset to analyze policy impact. and conducted causal inference analysis (difference-in-difference analysis). After cleaning data, addressing missing data and removing outliers, I estimated linear regression models to evaluate policy impact on household outcomes like consumption, income and savings. Results showed that beneficiary's response is conditioned on experience, age and social status. This led to program redesign and effective targeting.
- Skilled in pulling, merging, and working with datasets of different sizes and complexities including both structured and semi-structured data using SQL, Python, SAS, R
- Skilled in data mining to provide valuable insights that drives department decisions
- Instruct regional development course (Masters level) and supervise graduate student research
- Teach and build curriculum for undergraduate economics and urban economics courses

Visiting Assistant Professor - Ohio University

JANUARY 2014 - JUNE 2018

- Was responsible for undergraduate data analytics course which introduced students to basics of data analytics, visualization and inferential analysis using SAS
- Assisted students to appropriately apply statistical tests like ANOVA, Chi-square test, Paired t-test, Pearson coefficient of correlation, Wilcoxon rank-sum, etc.
- Helped graduate students to develop skills in outlier detection, address missing values, dimension reduction, merge various datasets and conduct exploratory data analysis.
- Led graduate students to ideate and build machine learning classification models to answer questions on adoption behavior of small business owners.
- Introduced graduate students to fundamentals of causal inference, difference-in-difference estimations, regression discontinuity and other causal inference tools.

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EXPERIENCE

Business Information Analyst (Contractor) - Ohio University

OCTOBER 2013 - DECEMBER 2013

- To tackle delays with receiving quotes for life insurance applications, I built a logistic regression model to determine which application attributes did not lead to placement (add business value). This work led to the creation of a triage system where in-bound applications where categorized, based on model results, and further resulted in effective usage of underwriting time thereby saving the business unit over $920,000.
- Used Visio and process mapping techniques to reduce and eliminate five non-value-added processes
- Applied statistical tests like Chi-square tests, pair sample t-tests to select relevant variables for trial life insurance analysis
- Identified root causes of business problems and developing solutions by utilizing data visualization and exploration processes

EDUCATION

PhD Applied Economics - The Ohio State University

Columbus, Ohio

MA Economics - The Ohio State University

Columbus, Ohio

BSc. Agriculture - Kwame Nkrumah University of Science & Technology

Kumasi, Ghana

COURSES & CERTS

DATA SCIENCE INFINITY

Actionable Learnings: Extracting & manipulating data using SQL. Application of statistical concepts such as hypothesis tests for measuring the effect of AB Tests. Utilising Github for version control, and collaboration. Using Python for data analysis, manipulation & visualization. Applying data preparation steps for ML including missing values, categorical variable encoding, outliers, feature scaling, feature selection & model validation. Applying Machine Learning algorithms for regression, classification, clustering, association rule learning, and causal impact analysis for measuring the impact of an event over time. Machine Learning pipelines to streamline the ML pre-processing & modelling phase. Turning business problems into Data Science solutions.

IBM Data Science Professional Certificate

(Ongoing, Completed 6 out of 10 courses)

Actionable Learnings: Used housing data to predict home prices when information on specific features are obtained. First used Pandas and Matplotlib in Python for exploratory data analysis and to verify correlations between the variables of interest. Imported scikit-learn library for linear regression packages for the model development. Ridge regression was adopted (due to multicollinearity) and used to fit a model for predicting housing prices.