

# Louis Agyekum

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<https://louis-agyekum.github.io/>

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## DATA ANALYST/SCIENTIST

Detail-oriented and analytical professional with hands-on experience in comprehensive data analysis, advanced machine learning techniques, and cutting-edge statistical modeling to drive strategic business success. Possesses a strong foundation in programming languages and powerful data visualization tools to generate actionable insights for stakeholders. Seeking to leverage my data modeling skills to solve business problems, and turn big and dirty data into valuable intelligence, easy to understand and used by management and business units for strategic decisions.

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## EDUCATION

### **Sustainable Finance (Master's Degree)**

**August 2021 – April 2023**

Trent University, Peterborough - Canada

### **Statistics and Economics (Bachelor's Degree)**

**January 2016 – July 2020**

University of Ghana, Accra Ghana

### **Statistics (Diploma)**

**August 2010 – May 2012**

University of Ghana, Accra Ghana

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## WORK EXPERIENCE

### **Data Scientist / Machine Learning Engineer, Trent University**

**September 2021 – April 2023**

- ✓ Developed and evaluated algorithms using machine learning and statistical modeling techniques to increase performance, quality, data management, and accuracy.
- ✓ Designed machine learning systems and self-running artificial intelligence (AI) software to automate predictive models.
- ✓ Developed and executed data analysis plans, including data cleaning, manipulation, and transformation, to ensure data integrity and accuracy.
- ✓ Utilized statistical techniques, such as regression analysis, factor analysis, and clustering, to uncover patterns, relationships, and trends in research data.
- ✓ Developed and maintained comprehensive databases to store and manage research data, ensuring efficient data retrieval and organization.
- ✓ Increased the speed of development by 30% within a few weeks by implying effective problem-solving techniques.
- ✓ Prepared comprehensive reports, research papers, and presentations to disseminate research findings to academic and professional audiences.

### **Research and Data Analyst, Bank of Ghana**

**August 2016– May 2021**

- ✓ Maintained databases to ensure data integrity and security of internally generated data. Revamp data dictionary to enhance historical data tracking and maintain consistency across various domains.
- ✓ Provided analytical solutions by analyzing data and transitioning it into actionable intelligence. Developed models to extract insights and deliver high-quality reporting that meets specifications.
- ✓ Conducted rigorous economic research and utilized statistical techniques to analyze financial market data, supporting monetary policy formulation and financial stability assessments.
- ✓ Created and maintained databases to manage and organize economic indicators, ensuring accurate and reliable data for analysis.
- ✓ Prepared reports, briefing papers, and presentations for senior management and external stakeholders, effectively communicating research findings.

### **Data Analyst, Ghana Airport Authority**

**June 2012 – December 2015**

- ✓ Utilized statistical software (SPSS, SAS, STATA, R, Python) and data visualization tools such as Power BI and Tableau to perform advanced data analysis and create effective visualizations.
  - ✓ Built normalized data from various sources by extracting, transforming, and loading data into BI tools like tableau. Successfully integrated data from five different systems, resulting in a centralized data repository and improving data accuracy by 15%.
  - ✓ Introduced and integrated predictive analytical techniques as a part of the core business analytics offerings by applying statistical and advanced analytical methods and modeling.
  - ✓ Collected, cleaned, and validated diverse data sets from multiple sources, ensuring data accuracy and reliability.
  - ✓ Collaborated with airport management and stakeholders to define key performance indicators and establish data-driven benchmarks for performance evaluation.
  - ✓ Prepared and delivered regular reports and presentations to senior management, utilizing data visualizations to effectively communicate key findings, trends, and actionable recommendations.
  - ✓ Designed and implemented automated data reporting systems using SQL, Power BI, and Tableau, reducing manual effort and improving reporting efficiency.
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### CORE SKILLS

- ✓ **Technical Skills:** Machine Learning (PCA, cluster analyses, decision trees, SVM, neural networks, ensemble methods), Data Mining, Big Data, Data Visualization, Generalized Linear Models, Time Series Analysis, Economic Research, Risk Modeling, Econometric modeling, Web-scraping , Cloud-based ETL
- ✓ **Programming Skill:** SAS, Python, R, Spark, Power BI, Tableau, Excel
- ✓ **Database:** MS SQL Server, Oracle SQL Developer
- ✓ **Soft Skills:** Critical-Thinking, Problem-Solving, Active Learning, Effective Communication, Consulting, Ability to communicate technical and complex concepts to a non-technical audience

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### CERTIFICATIONS

- ✓ June 2021, IBM Data Science Professional
- ✓ Nov. 2020, Supervised and Unsupervised Learning with Sci-kit Learn (DataCamp)
- ✓ Feb. 2019, Analyzing and visualizing data with excel (Microsoft)
- ✓ Jan. 2019, Querying Data with Transact-SQL (Microsoft)

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**TECHNICAL PROJECTS: Portfolio Website:** <https://louis-agyekum.github.io>

#### **“You Are What You Eat” Customer Segmentation** | *Python, SQL, Machine Learning*

- Used a k-means clustering on grocery transaction data to split out customers into distinct “shopper types” that could be used to better understand customers over time, and to more accurately target customers with relevant content and promotions.

#### **“Grocery Delivery Optimization”** | *Python, SQL, Machine Learning*

- Created and applied a Genetic Algorithm in Python to search out a near-optimal route across 10 addresses. This led to estimated savings of up to 50% in both delivery time and fuel consumption over a route based on transaction order alone.