Lawrence Alaso Krukrubo

Lecturer: Faculty of Science and Engineering

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https://medium.com/@sisokels

Having recently served as a Visiting Lecturer in the School of Mathematics and Computer Science at the University of Wolverhampton, I found a new passion positively contributing to the academic community. Thus, I resumed full-time in early January 2024 and I haven't looked back ever. My academic achievements fuel my enthusiasm for research, especially in Explainable Artificial Intelligence (XAI). In addition, my career spans significant roles in Data Science and Analysis, including as a Data Boot Camp Instructor for BGT in the UK and a Data Analyst Session Lead at Udacity. With proven expertise in extracting insights from diverse data sets, I excel in high-performance environments, streamlining reporting processes and enhancing efficiency through advanced statistical analysis.

─EXPERIENCE─

LECTURER: FACULTY OF SCIENCE AND ENGINEERING

Jan 2024 - present | The University of Wolverhampton , Wolverhampton

As a Lecturer at The Faculty of Science and Engineering, I contribute to the overall academic environment, ensuring a high-quality educational experience for students while advancing knowledge in these fields.

My activities include but are not limited to:

- Working with colleagues on curriculum development and the advancement of relevant discipline areas within the university.
- Developing and delivering course content focused on various tech stacks such as SAS Cloud Analytic Service (CAS), and Statistics in R and R for Data Science, extensively covering the Tidyverse and Ggplot packages.
- Designing assessments, assignments, and exams to evaluate student understanding and progress.
- Providing feedback to students and supporting their academic development.
- Contributing to the design and development of courses that foster collaborative and experiential learning techniques
- Updating course materials to incorporate industry trends, advancements, and emerging technologies.
- Collaborating with colleagues to ensure a cohesive and comprehensive curriculum.
- Contributing to the scholarship, professional practice and enterprise activities and objectives of the Faculty
- Supervising project students, tutoring and support.
- Publishing research findings in reputable journals or presenting at conferences.
- Collaborating with other faculty members and researchers on interdisciplinary projects.
- Work by University policies and procedures to assess students' work and give feedback.
- Contributing to the wider student experience through personal tutoring, excellent classroom teaching and providing support in and outside the classroom.
- Staying current with developments in teaching, computing, research and related fields.
- Attending conferences, workshops, and seminars to enhance expertise.
- Engaging in subject, professional, and pedagogical research as required to support teaching activities.
- Ensuring that outcomes of scholarly activity are appropriately disseminated.
- Participating in relevant professional organizations and networks.
- Participating in departmental meetings and committees.
- Contributing to the administrative tasks associated with teaching and research.
- Collaborating with colleagues on initiatives aimed at enhancing the overall academic experience.
- Establishing and maintaining connections with industry partners for potential collaboration, guest lectures, or student placements.
- Bringing real-world examples and applications into the classroom.
- Participating in outreach activities, such as public lectures or workshops, to promote awareness and understanding of statistics and data visualization in the community.
- Seeking feedback from students and colleagues to continuously improve teaching methods and course materials.
- Reflecting on teaching practices and making adjustments as needed.

VISITING LECTURER: SCHOOL OF MATHEMATICS & COMPUTER SCIENCE

Nov 2023 - Jan 2024 | The University of Wolverhampton , WOLVERHAMPTON

As a Visiting Lecturer for Statistics and data visualization at the University of Wolverhampton, I contribute to the overall academic environment, ensuring a high-quality educational experience for students while advancing knowledge in these fields.

My weekly activities include but are not limited to:

- Teaching:
- Conducting lectures, seminars, and tutorials in statistics and data visualization for postgraduate students.
- Developing and delivering course content focused on SAS Cloud Analytic Service (CAS) , SAS Visual Analytics and SAS Data Studio
- Developing and delivering course content focused on Statistics in R and R for Data Science, Extensively covering the Tidyverse and Ggplot packages. This course culminates in rigorous Statistical Testing exercises.
- Designing assessments, assignments, and exams to evaluate student understanding and progress.
- Providing feedback to students and supporting their academic development.

- Curriculum Development:
- Contributing to the design and development of courses related to statistics and data visualization.
- Updating course materials to incorporate industry trends, advancements, and emerging technologies.
- Collaborating with colleagues to ensure a cohesive and comprehensive curriculum.
- Research:
- Engaging in research activities related to statistics and data visualization.
- Publishing research findings in reputable journals or presenting at conferences.
- Collaborating with other faculty members and researchers on interdisciplinary projects.
- Student Supervision:
- Supervising undergraduate and postgraduate research projects in the field of statistics and data visualization.
- Providing guidance and mentorship to students undertaking research.
- Professional Development:
- Staying current with developments in statistics, data visualization, and related fields.
- Attending conferences, workshops, and seminars to enhance expertise.
- Participating in relevant professional organizations and networks.
- Administrative Duties:
- Participating in departmental meetings and committees.
- Contributing to the administrative tasks associated with teaching and research.
- Collaborating with colleagues on initiatives aimed at enhancing the overall academic experience.
- Industry Engagement:
- Establishing and maintaining connections with industry partners for potential collaboration, guest lectures, or student placements.
- Bringing real-world examples and applications into the classroom.
- Community Engagement:
- Participating in outreach activities, such as public lectures or workshops, to promote awareness and understanding of statistics and data visualization in the community.
- Continuous Improvement:
- Seeking feedback from students and colleagues to continuously improve teaching methods and course materials.
- Reflecting on teaching practices and making adjustments as needed.

DATA BOOT CAMP INSTRUCTOR

Aug 2023 - Nov 2023 | Black Girls In Tech , London

Dedicated and experienced Data Boot Camp Instructor with a strong background in data science, machine learning, and contemporary data science packages. Passionate about imparting knowledge and helping individuals develop practical skills to excel in the data-driven world.

Key Achievements and Functions
- Curriculum Development:
- I have designed and developed a robust curriculum covering the fundamentals of data science in both SQL and Python, starting from data analysis with Microsoft Excel.
- Specifically crafted modules dedicated to data science and machine-learning, integrating relevant libraries such as Numpy, Pandas, Matplotlib, Sklearn and FBProphet as well as the PowerBI toolkit.
- Course Delivery:
- Conducted dynamic lectures and hands-on workshops, ensuring participants grasped theoretical concepts and practical skills.
- Delivering course content on the Microsoft PowerBI Cloud service and Azure Machine Learning (AML)
- Incorporated real-world examples and case studies to illustrate the application of data science techniques.
- Hands-On Projects:
- Orchestrated hands-on projects focusing on real-world problem-solving, with an emphasis on Data Wrangling(Gathering, Accessing and Cleaning data).
- Provided guidance and feedback to participants, ensuring the effective application of their skills.
- Coding Exercises and Assignments:
- Developed challenging coding exercises and assignments to reinforce participants' programming skills in SQL and Python.
- Delivered constructive feedback on code quality, efficiency, and adherence to best practices.
- Interactive Learning:
- Group discussions, peer-to-peer learning, and team projects fostered a collaborative and interactive learning environment.
- Encouraged active participation and facilitated regular Q&A sessions to address queries and concerns.
- Stay Updated on Industry Trends:
- Remained current with the latest advancements in data science and data analysis, particularly in Sklearn, and Python, integrating relevant updates into the curriculum.
- Introduced new tools and libraries aligned with industry best practices.
- Support and Guidance:
- Provided one-on-one support and guidance to participants facing challenges in understanding concepts or overcoming coding obstacles.
- Conducted regular Q&A sessions to address common questions and concerns.
- Assessment and Evaluation:
- Designed and administered assessments to gauge participant understanding and proficiency in SQL and Python for data science.
- Evaluated participant performance and offered constructive feedback for improvement.
- Community Engagement:
- Encouraged participants to engage with the broader data science community, both online and offline, fostering networking and continuous learning.
- Shared relevant resources, articles, and professional development opportunities.
- Adaptability:
- Demonstrated flexibility in response to changes in technology, curriculum requirements, and participant needs.
- Continuously updated and improved course content based on feedback and emerging industry trends.

DATA ANALYST SESSION LEAD, UDACITY

May 2021 - Jul 2023 | Udacity , Remote

- Led and supervised a team of data analysts and mentors, ensuring top-notch support and guidance for students in the Data

Analyst Nanodegree program with a focus on R for data science and Python for machine-learning.

- Designed and delivered hands-on sessions, real-world projects, and assessments to facilitate practical learning and skill development.
- Created and updated course content and materials, ensuring alignment with industry trends and best practices.
- Conducted regular code reviews and provided constructive feedback to students to enhance their technical skills.
- Collaborated with the curriculum development team to enhance program content and align with industry standards.
- Coordinated with the career services team to prepare students for job readiness, including resume building, interview preparation, and job placement assistance.
- Actively engaged with students through forums, chat sessions, and one-on-one mentoring to promptly address queries and challenges.
- Analyzed program data to monitor student progress and recommended improvements to the learning experience.
- Presented data-driven recommendations to clients and provided ongoing support for implementation and monitoring.
- Contributed to the development of in-house data analysis tools and libraries, streamlining data analysis workflows and improving efficiency.
- Designed and administered assessments to gauge participant understanding and proficiency in R and Python for data science.
- Interpreted company reports to evaluate the effectiveness of sales processes, procedures, and strategies.
- Created impactful data visualizations using MS Excel, Pandas, and Tableau to inform decision-making.
- Collaborated with the product team to conduct cohort behavioural analysis, identifying key indicators of churn in 43% of cohort members.
- Led weekly data-connect sessions with clients and cross-functional Udacity teams, reporting progress on The Mentor's dashboard.
- Conducted root cause analysis, resulting in an increase in Nanodegree completions from 53% to 78% on average.
- Developed a workflow for the data analysis team combining Python and SQL within Jupyter Notebook, leading to a 7% improvement in data-mining turnaround time.
- Conducted iterative data wrangling activities, gathering, analyzing, and cleaning data from various sources to derive insights and patterns.
- Effectively communicated data insights through explanatory visualizations and explainable data science, enhancing business decisions.
- Conducted data preprocessing, feature engineering, and model tuning to optimize model performance.
- Collaborated with cross-functional teams to translate business problems into data science solutions and effectively communicate findings to non-technical stakeholders.

DATA SPECIALIST

Jun 2019 - Mar 2021 | Tech Layer , Lagos

Experienced Data Specialist and Top-Writer in Artificial Intelligence, with a history of working on challenging and exciting data science projects, using machine / deep learning to design data-driven solutions for better products and services.

Recipient of the IBM badge for Explainable Data Science 2020,

I completed the following activities:

- Exploratory Data Analysis and visualization to communicate data insights to Top Management as we design products for customers.
- I identified some procedural areas of improvement through customer data, using SQL, to help improve the sales revenue from the recently concluded 'answer-survey-&-enrol' program.
- Built a time-series loan-rate prediction model for our finance department that has improved the manual loan-rate decisive process to a more accurate threshold at par with current market trends, using the Facebook prophet library.
- Worked with clients to understand business needs and translate those needs into actionable insights with quantifiable and measurable metrics, using data analysis.
- I worked on semi-automated and explainable data pipelines including LALE, AIX360 and LIME and other combined algorithms and semi-automated (CASH) tools like AutoML and GridsearchCV, effectively speeding up iterative timelines to build robust solutions for our customers.
- Built a data pipeline for the product team on Google Cloud Platform, leveraging GCP BigQuery functions

DATA ADMINISTRATOR

Nov 2015 - May 2019 | Sisokels Consult , Lagos

- Effectively manage and maintain the organization's databases, ensuring data accuracy, consistency, and security.
- Implement data access and retrieval policies to ensure data availability while adhering to data protection regulations.
- Collaborate with cross-functional teams to define data requirements and establish data entry and validation protocols.
- Develop and maintain data dictionaries and documentation for data management procedures.
- Execute routine data backups and implement disaster recovery plans to safeguard critical data.
- Conduct data quality assessments, identify discrepancies, and initiate data cleansing processes to enhance data accuracy.
- Collaborate with IT teams to optimize database performance and troubleshoot database-related issues.
- Assist in the design and implementation of data-related projects, ensuring adherence to project timelines and budget constraints.

PRIMARY SALES MANAGER

Oct 2014 - Oct 2015 | Globacom , Bayelsa State

• Actively recruiting and Nurturing New dealers to create positive ROI (Return On Investment).
• Responsible for achieving State Primary Target monthly
• Achieving minimum of 5% growth in primary sales Month on Month
• Achieved 104% of State Target in August 2015 and October 2015,Got the NSC's commendation
• Responsible for planning, facilitating and executing strategic initiatives, to effectively cover the width and depth of distribution across the state
• Minimum achievement of 80% of State's Target month on month
• Ensure Cell Site utilization activity planning to boost optimal cell site productivity
• Manage, train and develop Primary Sales Executives (SEs). Develop merchandise for new products/ schemes &

market availability of Point of sale items
• Responsible for a prompt response on market intelligence and counter-strategies to secure incremental market share on all SKUs
• Increase dealer commitment and awareness of alternate channels of recharge across the state including Electronic channels and POS channels.

STATE MANAGER SECONDARY SALES

May 2014 - Oct 2014 | Globacom , Bayelsa

• Responsible for Quality HNI acquisition.
• Responsible for achieving Activations Target
• Responsible for achieving a minimum of 5% growth in consumption Month on Month Oversee all Sales Managers, Sales Acquisition functions and Retail Teams to deliver world-class quality new acquisitions via HNI and Mass Market acquisition strategies
• Responsible for planning, facilitating and executing strategic activation initiatives, through the secondary sales Team across the state
• Achievement of minimum 90% of activations Target month on month
• Ensure Cell Site utilization activity planning to boost optimal cell site productivity
• Manage, train and develop Sales Executives (SEs). Develop merchandise for new products/ schemes & market availability of Point of sale items
• Responsible for a prompt response on market intelligence and counter-strategies to secure positive growth on SOGA As well as coordinate with Sales Training Function for the product, process and behavioural training of Sales Team.
• Increase TOMA and ARPU across the state via Market day activations, Town storms, Campus activation drives, Strategic Sim Gifting Activations and more.

HEAD OF ACQUISITIONS

Feb 2014 - Apr 2014 | Globacom , Port-Harcourt

• Oversee all Sales Managers, Sales Acquisition functions and Retail Teams to deliver world class quality new acquisitions via HNI and Mass Market acquisition strategies
• Responsible for planning, facilitating and executing strategic activation initiatives, through the secondary sales Team across the state
• Achievement of minimum 90% of activations Target month on month
• Ensure Cell Site utilization activity planning to boost optimal cell site productivity
• Manage, train and develop Sales Executives (SEs). Develop merchandise for new products/ schemes & market availability of Point of sale items
• Responsible for prompt response on market intelligence and counter strategies to secure positive growth on SOGA As well as coordinate with Sales Training Function for product, process and behavioural training of Sales Team.

• Increase TOMA and ARPU across the state via Market day activations, Town storms, Campus activation drives, Strategic Sim Gifting Activations and more.

AREA SALES MANAGER

Aug 2012 - Jan 2014 | Globacom , Port-Harcourt

Oversee all Sales executives, Sales Canvassers and dealer Sim Reg Agents for effective market coverage. Monitor strict adherence to route and beat plans, in order to ensure increased quality activation figures
• Responsible for planning, facilitating and executing strategic activation initiatives, through the secondary sales Team across the state
• Achievement of minimum 90% of activations Target month on month
• Ensure Cell Site utilization activity planning to boost optimal cell site productivity
• Manage, train and develop Sales Executives (SEs). Develop merchandise for new products/ schemes & market availability of Point of sale items
• Responsible for tracking and reviewing distributor's performance on their secondary & tertiary sales and market expansion. As well as coordinate with Sales Training Function for product, process and behavioral training of Sales Team.
• Increase TOMA and ARPU across the state via Market day activations, Town storms, Campus activation drives, Strategic Sim Gifting Activations and more.

TERRITORY SALES MANAGER

Apr 2011 - Jun 2012 | Airtel Networks Limited , Port-Harcourt

• Responsible for increasing active Sim and Recharge Outlets via control of the depth and width of distribution for the zone
• Achieved 86% increase in number of Retailers and Sub Channel partners - Liaise and collaborate with Channel partners to identify ways to increase penetration. As well as recommend measures to increase tertiary sales from new and existing retailers.
• Achieve Tertiary recharge sales - Coordinate all sales activities so that sales turnover is optimized. Timely communication of all schemes /product launches to distributors and retailers
• Achieve Gross Pre Paid targets - Maximize sales through effective execution and implementation of placement and distribution strategies
• Manage, train and develop Field Sales Employee (FSE). Develop merchandise for new products/ schemes & market availability of Point of sale. Tracking and reviewing distributors and their FSEs on their secondary & tertiary sales and market expansion. As well as coordinate with Sales Training Function for product, process and behavioral training of FSEs
• Maintain an effective Updated Market Information System. This involves Partnering with Zonal Business Manager in

gathering, coordinating, and communicating market information including

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EDUCATION

MSC ARTIFICIAL INTELLIGENCE (WITH DISTINCTION)

The University of Wolverhampton , Wolverhampton, United Kingdom | Graduated in 2023

Earned with Distinction

CERTIFICATE OF CREDIT ARTIFICIAL INTELLIGENCE AND DATA SCIENCE FOUNDATIONS

Teesside University , Middlesbrough, UK | Graduated in 2021

A thorough exploration of Data Science, Data Analytics, Descision Science,Data Mining and Machine Learning via the R programming language

ARTIFICIAL INTELLIGENCE NANODEGREE

Udacity , California | Graduated in 2020

BSC BANKING AND FINANCE

Rivers State University , Port-Harcourt | 2.91 GPA

IBM ADVANCED DATA SCIENCE PROFESSIONAL CERTIFICATE

IBM , Mountain View, California, USA | Graduated in 2021

Proven, deep understanding of massive parallel data processing, data exploration and visualization, and advanced machine learning & deep learning. understanding the mathematical foundations behind all machine learning & deep learning algorithms. knowledge in practical use cases, justify architectural decisions, understand the characteristics of different algorithms, frameworks & technologies & how they impact model performance & scalability.

PROJECTS

FRAUD PATTERN DETECTION (PAYSTACK TEST)

In this project, I worked with one of the foremost payment processing companies in Africa, to investigate fraudulent patterns in proprietary data.
I applied:

1. Descriptive analytics with Python statistical and visualization libraries
2. Diagnostic analytics with K-means clustering machine learning algorithm
3. Predictive analytics with the Facebook Prophet time-series machine learning algorithm
4. Prescriptive analytics with a neural network.

At the end of this project, I was able to effectively communicate my findings to the company. This involved proper visualizations and effective communication skills.

BUILDING A COLLABORATIVE-FILTERING RECOMMENDER SYSTEM

Recommendation systems are a collection of algorithms used to recommend items to users based on information taken from the user. These systems have become ubiquitous and can be commonly seen in online stores, movie databases and job finders.

This project applies **Collaborative Filtering**, which is also known as **User-User Filtering**. It attempts to find users that have similar preferences and opinions as the input and then recommend items that they have liked to new and similar users.

The process for creating a User Based recommendation system is as follows:
- Select similar users based on their ratings and behaviour
- Get the recent records for each user and their neighbour.
- Calculate a similarity score using some formula
- Recommend the items with the highest score

See link below to project in Github
http://bit.ly/collaborative_filtering_rec_systems

ADVANCED DATA VISUALIZATION WITH MATPLOTLIB

The aim of Data Visualization is to analyse and communicate Data insights,
In a more effective, attractive and impactful way.

Matplotlib is the most widely used if not the most popular data visualizing library in Python.
It was created by **John Hunter(1968 - 2012).** Who was a neurobiologist and was built for analyzing *electrocorticography(ECOG) signals.*

This project explores advanced plotting and exploratory data analysis using Matplotlib to understand the causes and patterns of global migrations.

See the Project link n Github below
http://bit.ly/advanced_visualization_matplotlib

GOOGLE AFRICA DEVELOPMENT SCHOLARSHIP ANNUAL ANALYSIS WITH SQL

In this project, I used the Google Cloud-SQL platform to analyze and communicate findings from the participation of over 18,000 students across Africa. This project was challenging and quite rewarding too. Activities I performed include:-
1. Live-data scraping from students websites via Python and Spacy
2. Data aggregation in Cloud-SQL
3. Data cleaning, formatting, and re-structuring with SQL and Python
4. Data analysis, and inference creation
5. Data Visualization
6. Statistical modelling and comparisons
7. Data Analysis Communication

GEO-LOCATION DATA ANALYSIS OF LAGOS

The aim of this project is to help a new Tech Start-up find the most ideal location to cite an office in Lagos State, Nigeria.
I had just recently graduated from the Founder Institute Pre-seed Accelerator program in Lagos and was motivated to apply my skills in data exploration and machine learning to solve this problem.
1. I scraped the web page using the beautiful soup library.
2. I used The Foursquare API calls to retrieve geolocation data.
3. I fetched the text data using the requests library.
4. I converted it from JSON to Pandas DataFrame using the json_normalize module.
5. I used The folium library to render the maps and plot these via The Matplotlib library.
6. Then I clustered the venue categories per LGA using the Kmeans algorithm.
7. Then I explored respective LGAs to find the top LGA for a Startup to cite an office.
8. Finally, to add some fun, I used the word-cloud library to display the names of the top categories of venues in Lagos.

See link to project in Github
http://bit.ly/geolocation_data_analysis_lagos

VISUALIZATION OF BIG DATA WITH APACHE SPARK AND MATPLOTLIB

Since plotting more than 3 dimensions is hard, we'd learn how to reduce dimensionality in this project.
Note that:
In 2 dimensional space data boundaries can be defined through lines and circles.
In 3 dimensional space as spheres and planes.
In more than 3 dimensions as hyper-spheres and hyper-planes... These are multidimensional spheres and planes which cannot be visualized anymore, are hard to imagine, but still do the job to separate multidimensional point clouds in multi-dimensional vector space from each other.
Plotting in Apache Spark involves sampling. Which takes only a subset of your original data, but due to inherent randomness in selecting the values, it preserves most properties of the original data frame.

See link to project in Github
http://bit.ly/visualizing_big_data_with_spark

ANOMALY DETECTION WITH TIME-SERIES DATA

In data mining, anomaly detection (also outlier detection) is the identification of rare items, events or observations which raise suspicions by differing significantly from the majority of the data. Typically the anomalous items will translate to some kind of problem such as bank fraud, a structural defect, medical problems or errors in a text. Anomalies are also referred to as *outliers, novelties, noise, deviations and exceptions.*
In this project, I will build an Anomaly Detection Model from scratch, using Deep Learning. Specifically, I will be designing and training an LSTM autoencoder using the Keras API with Tensorflow 2 as the backend to detect anomalies (sudden price changes) in the S&P 500 index. I will also create interactive charts and plots using Plotly, Python and Seaborn for data visualization and display the results in Jupyter notebooks.

———————————————————CERTIFICATIONS———————————————————

UDACITY: ARTIFICIAL INTELLIGENCE NANODEGREE

https://confirm.udacity.com/KKUHDZCP

IBM: ADVANCED DATA SCIENCE PROFESSIONAL SPECIALIZATION

https://coursera.org/share/e4238b8cacf1604ae92df4c47971d134

DEEPLEARNING.AI: CONVOLUTIONAL NEURAL NETWORK

https://bit.ly/convolutional_neural_networks

IBM: DATABASES AND SQL FOR DATA SCIENCE

https://bit.ly/databases_and_sql

IBM: ADVANCED MACHINE LEARNING AND SIGNAL PROCESSING

https://bit.ly/advanced_machine_learning_and_signal_processing

IBM: DATA SCIENCE PROFESSIONAL SPECIALIZATION

http://bit.ly/ibm_data_science_professional_cert

─────────────────────────────────── SKILLS ───────────────────────────────────

TEAMWORK/ABILITY TO WORK COLLABORATIVELY.   EFFECTIVE COMMUNICATION SKILLS.

DATA VISUALIZATION SKILLS IN MATPLOTLIB, TABLEAU AND GGPLOT2

BIG DATA ANALYTICS SKILL WITH APACHE SPARK AND HADOOP.

EXPLORATORY DATA ANALYSIS SKILL USING PYTHON, R AND SQL, POWER BI

BUILDING PREDICTIVE AND DESCRIPTIVE MACHINE LEARNING MODELS.

EXPERT WITH DATA STORAGE AND MANIPULATION TECHNOLOGIES.

STRONG PROBLEM SOLVING AND INTERPERSONAL SKILLS.

DATA QUALITY CONTROL ASSESSMENTS AND INTEGRITY CONTROL SKILLS.

RELATIONAL DATABASE MANAGEMENT SKILLS WITH SQL   SQL AND DATA MINING

GOOGLE BIQQUERY AND CLOUD SQL   MICROSOFT SUITE, POWER BI