

# Building Africa's Artificial Intelligence Talents

Annual Report July 2019 - June 2020

1 million Artificial Intelligence talents in 10 years



r.



## Congratulations for Winning 3 International Awards











Al Learning videos - publicly available contents from top international universities- curated in external drive and distributed free across the country to address the challenge of of poor internet



## 17,000+



Online participants in Data Science Courses from registration to at least one class

# 1million+

Artificial intelligence for Starters free e-book download -99 use cases and expert views



YouTube view in 18 online classes ran between March - May 2020 during the COVID-19 lockdown

# 271,807

YouTube views of the 100Days of machine learning from Beginner to expert level classes

>3,000

Hours of face-to-face free classes in Data Science and Machine learning applications organised in different states of Nigeria



Data Science Nigeria Values

Impact · Excellence · Leadership · Innovation

Integrity · Selflessness · CAN-DO





**Accelerating Impact** in an Artificial Intelligence (AI) **Dominated Era** 

Artificial intelligence (AI) has proven to be a principal enabler of socio-economic development in emerging markets and could potentially tackle some of its challenging social problems proactively. Recent studies in machine learning and deep learning applications suggest the possibility of addressing global issues cutting across the 17 United Nations' Sustainable Development Goals with AI, thereby achieving the set objectives to end poverty, promote prosperity and wellbeing for all, and protect the planet by 2030.

Africa remains a strategic focus area for exploring how artificial intelligence can drive high-impact development. With a recent report by PwC revealing that artificial intelligence will add **\$15.7 trillion** to the global GDP, Africa can leverage Al opportunities to increase productivity, create new industries, drive consumption and monetize its youthful population as Al talents. Indeed, Africa is well-positioned to leverage new digital technologies to drive large-scale sustainable transformation and competitiveness.

At Data Science Nigeria, our pervasive, inclusive and disruptive learning model is informed by the urgent need to improve the quality of talents in the continent in order to meet future talent needs. Africa harbours nineteen (19) of the world's twenty (20) youngest countries, with sixty percent (60%) of its population below 25. Its youthful population presents a significant advantage for the continent as the International Financial Corporation (IFC) predicts that **230 million jobs** will require digital competence in **Sub Sahara Africa by 2030**. We are motivated by a clear understanding that Africa will be the talent bank of the world in light of the above statistics 2019 and 2020 provided vast opportunities for us to experiment with grassroots learning models. We expanded our offline learning content, grew our learning communities in **17 university campuses and 23 cities**, and launched mini learning clusters in many towns to democratize access to Al knowledge. We also explored new methods of hands-on immersion such as project participation, virtual hackathons, learning internship, collaborative research projects, and locally-relevant solution-thinking.

One of our biggest interventions was the release of the first artificial intelligence book for elementary and high schools in Nigeria, which simplifies the concept of artificial intelligence for kids to stimulate their curiosity and interest in learning about AI. This model underscores our new push to induct more young Africans into early AI learning and support schools to embed AI in their learning curriculum as the new normal. The realities of **COVID-19** further accelerated the need to adopt artificial intelligence for nation-building. The Coronavirus pandemic has made societies and economies adopt datacentric and digital solutions for identity, medical innovation, population management, and social wellbeing. We believe that COVID-19 has presented a new catalyst for AI usage in Africa as the continent accelerates its 4th Industrial Revolution (4IR) path. Governments and businesses will be more interested in figuring out how to embed the learning for a post-COVID world and leverage AI in health, agriculture, supply chain management, education, etc.

We also contributed our quota by supporting the AI for COVID-19 initiatives with research publications and policy guidance. As artificial intelligence takes a dominant role in society, we firmly believe that there will be a call for accountable usage. Fairness, ethics, and responsible application coupled with reproducibility and explainability will be essential for equality and a better society.

We also believe that the new metrics of Al is balanced social impact and goes beyond the counts of meetups and research papers to how we can effectively deploy Al to solve local problems and make lives better for all. Indeed, we are persuaded that Africa is on the right path and will not be left behind in the Al-dominated era!

Bayo Adekanmbi



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Disrupting Artificial Intelligence through Early Education

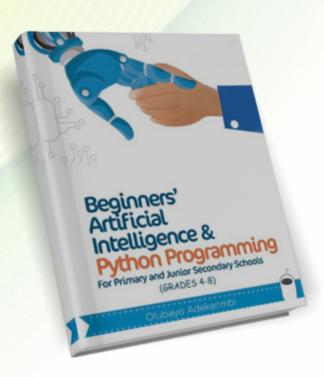
## Launching the 1<sup>st</sup> Artificial Intelligence Book for Elementary Schools in Africa

The first-ever AI book for elementary and high schools in Africa, the Beginner's Artificial Intelligence and Python Programming Book for Primary and Junior Secondary Schools (Grades 4 - 8) was unveiled on November 19, 2019, at the AI Summit. The book was powered by Data Science Nigeria's vision to raise 1 million artificial intelligence talents in 10 years.

The book demystifies the concept of artificial intelligence in a friendly manner to kids, using cartoon characters and simple language to stimulate their curiosity and drive their interest in learning about AI. Within a short period, the book has generated a lot of attention and global endorsement by renowned experts, professionals, data enthusiasts, and parents. It is currently being distributed for free through a train-the teachers program in public schools.

At the same time, it is available for general sales on and online retail stores such as Amazon, Google Books, and Jumia and has garnered several 5-star reviews for its excellent content.

Watch the book unveiling event on Channels Televisionhere: https://youtu.be/I1EFI3LrcAl



#### Building Africa's Artificial Intelligence Talents



#### "

"Artificial intelligence with python programming does not seem like a beginner's topic. But it is completely possible, as presented beautifully in this wonderful book... The approach presented here is perfect, by first introducing interesting, useful, and impactful applications, outcomes, and use cases...Every instructor and student should study this book!"



Dr. Kirk Borne Principal Data Scientist and Data Science Fellow at Booz Allen Hamilton, USA

#### Free Al book Distribution through a Trainthe-Teacher Program

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The Train-the-Teacher model was designed for teachers in primary and junior secondary schools. The objective of this intervention is to ensure that the teachers have sufficient knowledge to embed and teach artificial intelligence and Python Programming.

On December 12, 2019, the first edition of this intervention hosted 121 teachers from 83 primary and secondary schools in Lagos and the neighboring states. The teachers were exposed to innovative programming tools, especially those that allow students to practice coding with their mobile phones when personal computers are not available. Also, each participating school received free copies of the AI textbook for use in their respective schools.





#### Free Distribution through Corporate Partnership

Distribution of the free copies of the Beginners' artificial intelligence and Python Programming has been accelerated with corporate sponsors who buy in bulk to distribute copies to private and public school students. This is well-aligned with our inclusion agenda to ensure that as many pupils as possible have access to basic knowledge. Our corporate sponsors include Softcom Nigeria, Proshare Foundation, Mr. Dapo Ladeji etc.





#### Free Distribution and Knowledge Sharing Sessions at Public Schools in Lagos, Niger and Kano

We established Al+ Club for Schools, an initiative aimed at introducing pupils in elementary schools, with particular focus on public schools in Lagos, Kano and Niger States to artificial intelligence. Unfortunately, further plans for free distribution of the Al books across the country were suspended as a result of the COVID-19 national lockdown but we will pick up where we left off when the lock down is called off.







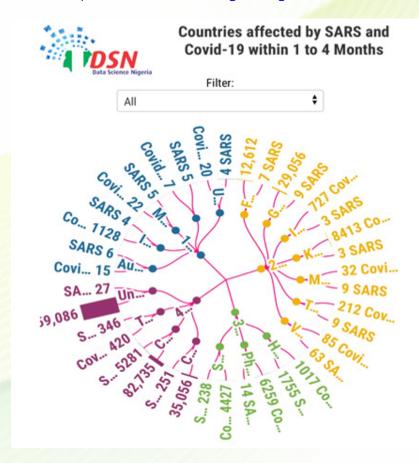


**Artificial Intelligence for** Social Impact: Supporting the COVID-19 Intervention with AI In response to the COVID-19 pandemic, Data Science Nigeria channeled its efforts to support the management in charge of controlling the crisis through effective use of data science.

Here are some of the projects we executed to support the COVID-19 intervention:

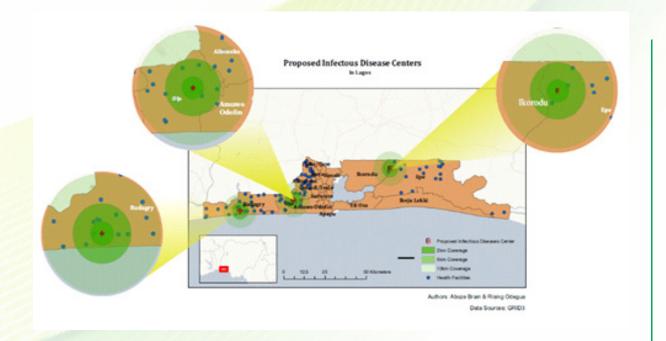
• Comparative and Exploratory Data Analysis on COVID19, Ebola, and SARS to Understand the Patterns and Imperative for Robust Management: this analysis explores the fatality and survival pattern in a dynamic visualization.

Read at http://www.datasciencenigeria.org/covid19-eda



• Disinformation, Misinformation and Rumor Analysis: this ongoing research assumes that the greatest epidemic may be the nature of the information that people receive and share. The frequency, source, and believability of messages related to COVID 19 circulated on social media platforms(WhatsApp, SMS, Facebook Messenger, etc.), are being studied to understand the nature of the responses of the various recipients.

•The Use of Social Vulnerability Index and Geospatial Data to Optimize Quick Delivery of Make-shift Health Facilities for COVID19 Management and Proactive Intervention: this research was shared with the Lagos State government to guide the distribution of isolation and testing centers to ensure adequate presence in potential high-risk and densely populated locations. Read more at http://bit.ly/SVI\_COVID19



• Development of epidemiological models and local risk indicators based on demographic profiling, geospatial distribution and the transmission patterns across key African countries.

• **COVID19 Trend Visualization Dashboard and Preventive Tips:** this is a dynamic dashboard that visually simplifies local, continental and global trends with relevant prevention techniques. Check at <u>https://bit.ly/coronaViz</u>

·We served as members of the global Presidential Taskforce on Data Modeling for COVID-19



## Participation in the Global COVID-19 Data Collection Partnership with FAIR VODAN Netherland

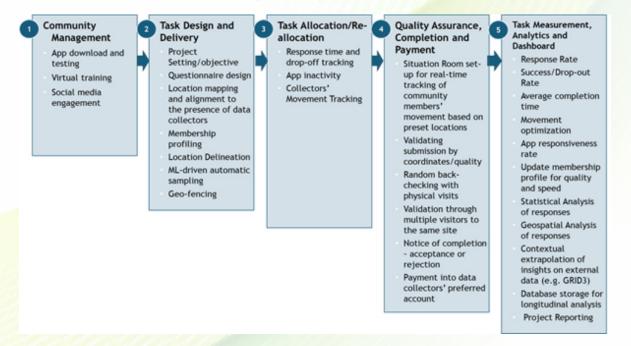


**Data Science Nigeria** was nominated as Nigeria's lead for the global Virus Outbreak Data Network (VODAN) Project. This is one of the joint activities of the Committee on Data for Science and Technology (CODATA), the Research Data Alliance (RDA) foundation, the World Domination Summit foundation (WDS), and the GO FAIR foundation.

VODAN was set up to help fight the Coronavirus disease by establishing the Internet of FAIR Data and Services. FAIR stands for human and machine-readable digital data objects that are Findable, Accessible, Interoperable, and Reusable. VODAN ensures that medical data are discoverable by computers and accessible under governance regulations. The members of the coalition includes GO FAIR Foundation, Kampala International University (KIU), Tangaza University College (Kenya), Moi University (Kenya), Data Science Nigeria (DSN), Olabisi Onabanjo University (Nigeria), University de Sousse (Tunisia), Great Zimbabwe University (GZU), Mekelle University (Ethiopia), Addis Ababa University (Ethiopia), Leiden University, Tilburg University (Netherlands) and the Philips Foundation.

#### Use of DataCrowd for Pan Nigerian Local Data Collection

In order to accelerate access to data, We scaled up the capacity of its in-house app, DataCrowd, for massive data collection. We built a network of thousands of data collectors who can collect video, sound, text, and picture data with geotagged and time-stamped submissions. We firmly believe that this can support a cost-effective and useful approach for real-time market insight, instant ground-truthing, project monitoring/evaluation, intervention assessment, and evidence-based program design.







**Expanding Research Best Practices** 

We strengthened our in-house research capabilities with a focus on high-impact social-good outcomes through strategic partnerships and community engagement. Significant effort was channeled towards the Sustainable Development Goals on health, education, and financial inclusion. The team also embedded mechanism design methodologies into our design thinking paradigm. This approach allows for a multi-disciplinary use of techniques from algorithms, optimization, and mechanism design, along with insights from other disciplines, to improve access to opportunities for historically underserved and disadvantaged communities.

#### Sustained Academic Paper Review via Social Media Channels

In a bid to expand research best practices, we have reviewed close to 150 recent academic and industry research papers at a minimum of 3 new paper reviews weekly. These reviews provide our audience and community members the opportunity to be abreast of trends and emerging evolutions in the world of artificial intelligence.



#### Academic Paper Writing Workshop with Dr. Elaine Nsoesie

As part of the effort to support world-class research through scientific writing, we organised a 2-day knowledge workshop on Ph.D./M.Sc. and academic research paper writing during our virtual bootcamp series in May 2020. This Ph.D./MSc research masterclass was facilitated by Dr. Elaine Nsoesie, an assistant professor at Boston University, Massachusetts, USA.

To ensure inclusion and address the challenge of limited internet access as a result of the national lockdown, data grants of 2GB worth of internet access per person was awarded to 100 participants to join the session. This live session via Zoom had over 550 people in attendance, while the post-event video has gathered over 10,000 views on YouTube since its première.



#### Natural Language Processing Research Workstream and Mashakene Africa Project

At the bootcamp, Data Science Nigeria created a Natural Language Processing (NLP) stream with a bid to contribute to the African language translation drive. The inaugural meeting had over 100+ participants from various institutions, communities, and locations in Nigeria also passionate about deepening the knowledge of NLP in Nigeria. Kathleen Siminyu, the Regional Coordinator for AI for Development, championed this stream. Key contributors to this group include Goodness Duru (Retina, AI), Stephen Oni (Data Science Nigeria), Lawrence Okegbemi, Endurance Muogho (Federal University of Technology, Akure), and Idris Abdulkabir Dangana (Di-HUB/Bayero University Kano).



### Participation in TOKI 2019

We were the only non-academic institution that presented an academic paper at the 3rd biennial Transition from Observation to Knowledge (TOKI) Conference 2019 hosted by the University of Lagos. The conference was sponsored by the University of Lagos, University of Ibadan, Obafemi Awolowo University, and Data Science Nigeria.

TOKI is the biennial forum for presentation of new research results and demonstration of new systems and techniques in Knowledge Management, Competitive Intelligence, Big Data, Semantic Web, IOT, Resource Management, Web Mining, Natural Language Processing, Interoperable and Adaptive Information Systems and Data Science. The conference is a two-day event for full and short papers presentations, demonstrations, tutorials, and workshops focused on research and development.

https://www.toki-ng.net/toki2019/



## NEURIPS 2019 Local Hosting

We held a local viewing meetup of NEURIPS (Neural Information Processing Systems) 2019 conference, the world's largest gathering on artificial intelligence held in Canada. The two-day meet up held at the Data Science Nigeria Al Hub on the 13th and 14th of December 2019. The event was attended by many industry practitioners and Germany-based David Adelani, a doctoral researcher who was on a visit to Nigeria.

The local viewing meetup featured cuttingedge knowledge sessions from top AI experts around the world. The sessions were interactive with review discussions, knowledge sharing, and gifting of free books.













**Virtual Learning to** Stay Ahead of the COVID-19 Lockdown In response to the challenges of the national lockdown as a result of COVID-19, Data Science Nigeria designed and deployed an inclusive online learning program to support active learning on a large scale. Beginners, intermediate and experts classes were organized with reputable instructors. Free data (internet) grant was also provided to ensure that students who cannot afford to pay for Internet access due to the lockdown of schools do not miss out. Data Science Nigeria ran over 20 classes facilitated by experts, researchers, and practitioners from the United States, Europe, and Africa. The videos cumulatively have more than 133,000+ views on YouTube alone.



Here is a quick breakdown of the virtual classes:

- Masterclass on hands-on
  Deep Learning
  <a href="https://bit.ly/2JfyhbN">https://bit.ly/2JfyhbN</a>
  - COVID-19 Data Science Virtual Conference http://bit.ly/DSN COVID19
- AWS Sagemaker for Machine Learning http://bit.ly/AIVirtual\_Drldemudia

Putting Data Science in Action through Process Mining http://bit.ly/Dr\_Okoye

The Life of a Postgraduate Data Science Researcher https://bit.ly/DSN Idris

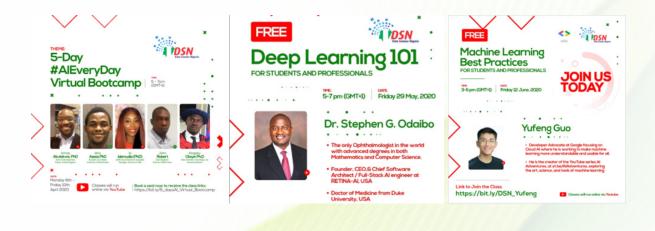
Azure Fundamentals and how to pass MS certification https://bit.ly/DSN\_JohnRobert

- Umoja Hackathon on Image classification 3rd place winners: <u>https://bit.ly/DSN\_Umoja</u>
- Convolution Neural Networks-Build a CNN from scratch https://bit.ly/DSN SteveCNN
- Computer Vision Using OpenCV step by step http://bit.ly/DSN\_LekeCV
- Introduction to Python for Under-13 beginners http://bit.ly/Bolu Python
- Learn TensorFlow from Scratch https://bit.ly/TF\_Elisha
- Natural Language Processing with TensorFlow https://bit.ly/TF\_Wura
- Learn R Programming from Scratch: http://bit.ly/R\_Ezekiel
- Start Your Al/Data Science Journey with Data Science 101: https://bit.ly/Data\_Science\_101

Masterclass on hands-on DEEP LEARNING https://bit.ly/2JfyhbN

- Building a World-class Career in Data Science/Al http://bit.ly/Dr Bayo
- Data Engineering 101 for Beginners https://bit.ly/dataEngineering101
- Al/Data Science Scientific Research Writing Webinar https://bit.ly/JoinDSNWebinar
- Masterclass on Deep Learning 101 with Dr Stephen Odaibo https://bit.ly/Dr\_Odaibo
- Ladies in Al Online Meetup https://bit.ly/DSN\_LadiesinAl
- Machine Learning Best practices with Yufeng Guo http://bit.ly/DSN Yufeng

#### Building Africa's Artificial Intelligence Talents



#### Provision of Free Internet Data to Students

With the socio-economic challenges brought by the COVID-19 pandemic and the accompanying restrictions, many individuals in our learning community were unable to maintain data-subscription schedules. To address this, Data Science Nigeria provided free data to hundreds of students and researchers. In the initial instance, over 1 Terabyte at an average of 1.5GB per person was given to participants for free through 5 different programs.

Here are testimonials from the beneficiaries: <u>https://bit.ly/2VyKobb</u>



### **Delivery of Data Science Training For Professionals**

During the COVID-19 lockdown, we continued to engage professionals in learning data science for business applications through our virtual training courses designed to cover industry-focused themes via hands-on delivery targeted at entry-level to mid-level corporate practitioners.

The Business and Data Analytics training ran online for five weekends and included hands-on classes focused on the conceptual explanation of AI/Data Science concepts and use of dragand-drop tools like BigML and Microsoft PowerBI. We completed three face to face learning cohorts successfully before the national lockdown.



#### Building Africa's Artificial Intelligence Talents





#### Community Engagement Initiatives Al+ Mentorship:

last year, we ran a mentoring stream to support many of our Al+ members. Eligible members of our Al+ Community were mentored for career and skills development by our astute world-class mentors through this support program.



Toregister, dick bit.ly/aimembership

#### JOIN THE FASTEST GROWING AI COMMUNITY IN AFRICA

Become a member of Data Science Nigeria. Open your Data Science Journey to a new world of possibilities by joining a family.

#### See our community platforms here :

datasciencenigeria.org/ ai-communities

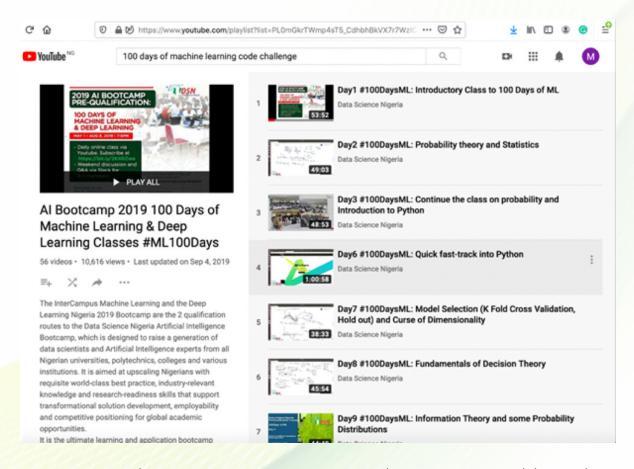
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List of mentors: https://www.datasciencenigeria.org/mentors/

**100 Days of Machine Learning:** in preparation for the 2019 AI Bootcamp, we had 100 days of Machine Learning training. The learning videos were uploaded to our YouTube channel and complemented with weekend discussions via a dedicated Slack channel. Participants had the opportunity to ask questions and get explanations one-on-one on the Slack channel. These learning videos have now grossed over 600,000 views and have also been made available offline to our AI+ Communities via the AI+ Knowledge Box.

Link: https://bit.ly/DSN100DaysML





Al+ Meetups: with our 23 Al+ City Communities and 18 Al+ Campus Clubs, we have organised hundreds of meetups for beginners, intermediate and experts within our community to upskill with practical hands-on research and industry-relevant skills. Each community is led by a community lead responsible for drafting the curriculum, quality assurance, and opportunity creation for all the community members. These meetups also run as parallel sessions across communities with uniform curricula and project Kaggle competitions.

See Campus and City Communities https://www.datasciencenigeria.org/ai-communities/

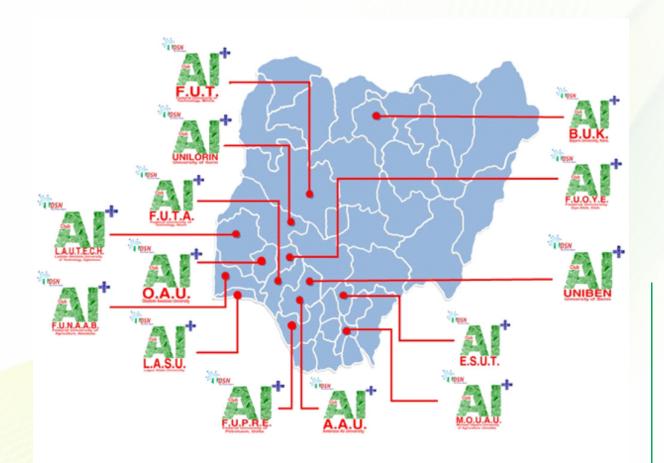






- 1. Abeokuta
- 2. Abuja
- 3. Ado-Ekiti
- 4. Akure
- 5. Asaba
- 6. Bauchi
- 7. Benin
- 8. Calabar
- 9. Enugu
- 10. Gombe
- 11. Ibadan
- 12. ljebu-Ode
- 13. Ilorin
- 14. Jos
- 15. Kaduna
- 16. Kano
- 17. Lokoja
- 18. Osogbo
- 19. Owerri
- 20. Port Harcourt
- 21. Uyo
- 22. Yola
- 23. Zaria





**Al Everyday:** to optimally provide learning opportunities for our passionate students, we run intensive six-week cohorts of introductory classes for beginners at the Al Hub. These classes run as **Al Wednesdays** for beginners who are university students or tertiary graduates and **Al Thursdays** for pre-university students. Our introductory classes feature two learning streams of Python and Machine Learning, and our students get to test the knowledge and hands-on skills with a Kaggle Competition project.



**Al in Cities:** in February 2020, we brought over a thousand students in **11** of our Al+ Communities across **17** Cities together for six weeks to learn Python and machine learning. The Classes were fully hands-on and project-based, with **241** of the students successfully completing the Kaggle Competition. Of these 241 students, **233** were engaging in a Kaggle competition for the first time. The best of the best received free copies of our Al book. To sustain the knowledge growth in the community, each community was given our Al Knowledge Box 2 containing **4 Terabytes** of Al Knowledge as over 17000 videos, eBooks and datasets.



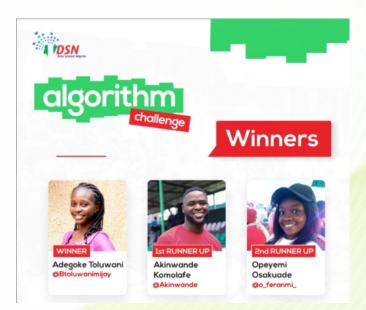
### Algorithm Challenge for community capacity building

Data Science Nigeria organized the first of its kind Logistics Regression Algorithm Challenge in April 2020. The challenge was organized to engage the DSN community members in understanding the workings machine learning algorithms; hence the participants were asked to build a machine learning algorithm from scratch.

The challenge lasted for a week, with 147 participants across our campuses and cities. Fiftyfour participants forked the repository while 30 made submissions.

#### Notebook evaluation is based on the following key parameters:

- Mathematical abstraction.
- Code coherence/ modularization.
- Utilization on a dataset.
- Working code/ model generalization.
- Model visualization/ learning rate.
- Instruction



At the end of the evaluation process, the following participants emerged as winners and below are links to their work.

#### Adegoke\_Toluwani

https://github.com/beejhay31/ML-Logistic-regression-algorithm-challenge

#### Akinwande Komolafe

https://github.com/Sensei-akin/Logisitc-regression-algorithm-from-the-scratch

#### Opeyemi Osakuade

https://github.com/opeyemiferanmi1/ML-Logistic-regression-algorithm-challenge



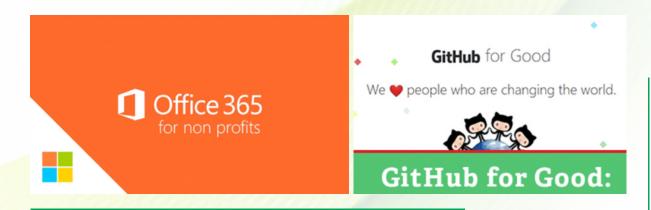
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Digitalising DSN Operations for Sustainability

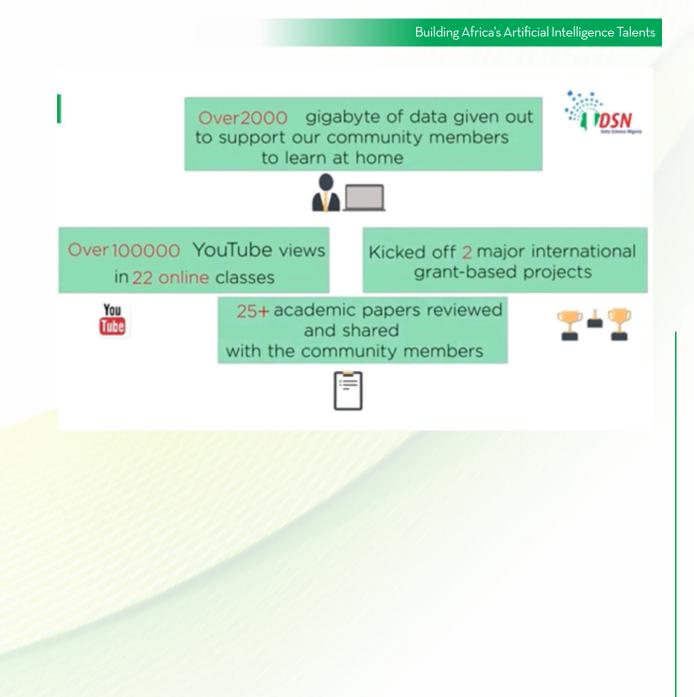
# Free Grant from Microsoft and GitHub Tools for End-to-End Operational Digitalization

In December 2019, we received an in-kind donation for Office 365 non-profit offers from Microsoft and GitHub. This support facilitated the activation of Microsoft Office packages for all staff and the integration of our documents, meetings, and chats using the various Microsoft tools, such as Outlook, Word, Excel, PowerPoint, Teams, OneDrive, SharePoint, etc.



## Effective Remote working: Timesheet, Project Collaboration and Real-time Support

With the outbreak of COVID-19 in Nigeria, Data Science Nigeria activated remote operations for all staff and we have been able to work effectively and efficiently and deliver value to all our clients and stakeholders, even during COVID-19. Timesheets were used to evaluate performance and Microsoft tools such as Teams and OneDrive were used for effective collaboration. We adopted weekly timesheets submission, where the team leads set weekly targets and the team members were evaluated based on the timesheet submitted weekly.







# MainOne Free Internet at the AI Hub Yaba



We experienced a significant boost to our vision of raising 1 million Al talents when MainOne, West Africa's leading connectivity and data center solutions provider, partnered with us to be the official broadband provider for the Al Hub at Yaba, Lagos in July 2019. The unlimited internet access allowed the participants of our Free Al everyday classes to access top class learning content and real-time data and cloud-based algorithm platforms for developing data-driven solutions.

Read more: <u>https://techpoint.africa/2019/07/30/mainone-empowers-nigerias-first-artificial-intelligence-hub-with-broadband/</u>



#### Al on Campuses and in Cities

As part of our vision to lead learning for individuals and collaborate with institutions, we expanded our community to 23 cities last year. These AI+ City Communities run City-based AI+ learning meetups executed via a structured learning platform for secondary school students, pre-university students, university/polytechnics students and professionals. They run off the AI Everyday model currently being run at the AI Hub in Lagos, with a strong focus on collaborations with local hubs and institutions, curriculum, quality assurance and opportunity creation for all community members. These City Communities are also fully funded and supported by Data Science Nigeria.

Link: See City Communities: <u>https://www.datasciencenigeria.org/city-communities/</u>



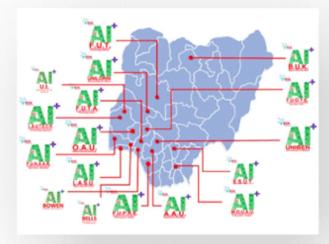






DSN Celebrates the following new campus clubs

Al+ Club UI, Al+ Club Bells and Al+ Club Bowen





for more information about our AI Campuses visit: www.datasciencenigeria.org/aicampus #1MillionAlTalentsIn10Years

#### Al Everywhere Classes Across 17 Cities with Kaggle Competition

As part of our contribution to skill validation for our Al in Cities training in 17 cities in Nigeria, we hosted a Kaggle competition which lasted for a week. During the competition, 1,179 entries were recorded from the 241 competitors across the participating Al+ Communities. After a thorough analysis of the distribution of cities on the leaderboard, our belief that talents are everywhere was validated as 233 of these had this competition as their first attempt at Kaggle. Free copies of our Al Book were given to the top three Kagglers in each participating Al+ Community. 81 free copies of the book were distributed during this period to further upskill and encourage participation.

#### Picture: https://www.kaggle.com/c/data-science-nigeria-ai-in-citie/leaderboard





#### Sustained Growth of Learning Communities on Campuses and in Cities

The AI+ Campus Clubs are currently in 18 campuses across Nigeria. We have also established AI+ City Communities in over 23 communities.

- · Campuses: <u>https://www.datasciencenigeria.org/aicampus/</u>
- · Cities: <u>https://www.datasciencenigeria.org/city-communities/</u>

#### Al Cities Lead Conference

We believe the impact of our communities is hinged upon the quality and effectiveness of our community leads. This is why we commit to training our leads, and inspire and equip them, so they can effectively represent and build their respective Data Science Nigeria Al+ Communities. On June 13, we hosted our community leads on a virtual conference to this end. The conference was packed with sessions on community building and career development to ensure our leads become more valuable people to the community and themselves while giving selflessly to the community.





#### Expanding Artificial Intelligence Learning Delivery with AI Knowledge Box

One of the challenges faced by Nigerian students is the high cost of internet data and inconsistent electricity supply. Addressing this issue as it relates to lack of learning content in artificial intelligence, we expanded the model of learning delivery with Al Knowledge Box for our Al+ City and Campus Communities. The Knowledge Box is a hard disk drive of over 17,000 recent publicly available tutorial videos from the world's best universities . It also contains eBooks, datasets, and other course materials. The current version is 4Terabytes and distributed for free across the continent to accelerate world-class learning.







Data Science Nigeria (DSN) expanded its learning community model to include data science consulting and AI solutions delivery. In the last few months, we have delivered quality solution-oriented machine learning projects, corporate training, and bespoke consulting to local and international organizations

#### Consulting Solutions Grant by Bill and Melinda Gates Foundation (BMGF)

As publicly reported on the grant website, DSN is working on Eko 360. This is a project targeted to improve coordination, integration, and consolidation of data collected from various data sources to support the Lagos Bureau of Statistics (LBS) in establishing an integrated data management platform

Grant Link: https://www.gatesfoundation.org/How-We-Work/Quick-Links/Grants-Database/Grants/2019/09/OPP1215808



#### **Crowdsourcing Project**

This project explores the use of crowd sourcing approach of data collection by testing the feasibility, reliability, and costeffectiveness in our focus geographies towards improving health service, product availability and delivery effectiveness

#### **Grantee Link:**

https://www.gatesfoundation.org/How-We-Work/Quick-Links/Grants-Database/Grants/2019/10/INV-002190 Capacity Building session in partnership with Lagos Bureau of Statistics and Ministry of Budget and Economic Planning, Lagos State





#### GRID3 Geospatial Data on Financial Inclusion for National Impact

In 2019, we partnered with GRID3 (Geo-Referenced Infrastructure and Demographic Data for Development), with support from Lagos Business School (LBS), Nigeria Inter-Bank Settlement System (NIBSS), and Central Bank of Nigeria (CBN) to develop an open data ecosystem and knowledge platform for policymakers in the financial inclusion space. The objective and resulting impact of this work are to help financial policymakers better understand the demographic, patterns, and distribution of the financially included and excluded population in Nigeria.

To carry out this analysis, we requested adult population estimates at the local government level and Point of interest (POI) datasets from GRID3. These datasets, combined with the Bank Verification Number (BVN) provided by the CBN, enabled us to calculate the adult population's BVN penetration index across Nigeria. The resulting analysis shows the penetration of BVN and its inclusiveness which can help financial policymakers make better informed decisions.

### Al Commons/Butner Family Foundation -Artificial Intelligence for Health; Reproducibility for Social Good in Emerging Market

The foundation undertook a significant proof of concept project with AI Commons on a multi-market project across Nigeria, Ghana and Tanzania.

The Butner Foundation-funded Al Commons project is proof of the concept of a new methodology of developing artificial intelligence solutions that enables anyone, anywhere to benefit from the opportunities Al provides. The project aims to improve the accessibility, reproducibility, contextualization, and enhancement of artificial intelligence solutions.

Al Commons is a non-profit organization supported by the ecosystem of Al practitioners, entrepreneurs, academia, NGOs, industry players and organizations /individuals focused on the common good of spreading the benefits of Alto everyone.



#### World Bank Pilot on DataCrowd for Project Accountability and Tracking

Data Science Nigeria worked with the State Employment and Expenditure for Results (SEEFOR) Project team and the Ministry of Finance to pilot a ground truth project using our crowdsourcing solution, DataCrowd. Specifically, the DataCrowd solution was used to answer the following three (3) big questions:

#### 1. Presence of the Project:

DataCrowd was used to confirm the presence of the SEEFOR projects in each of the locations.

#### 2. Performance of the Project:

DataCrowd was used to validate the status and performance of the SEEFOR projects in each of the locations.

#### 3. People:

DataCrowd was used to get feedback from the residents of the communities where the projects were executed.

#### Al Recruitment as a Service and Data Scientists on-demand

Recruitment of top data science talents for organizations and institutions is part of Data Science Nigeria's industry engagement aimed at building an end-to-end artificial intelligence ecosystem. We are a leading outsourcing hub of data Science and artificial intelligence professionals in Nigeria with strong Pan-African footprints.

Through this program, we have built a strong database of talents that can be deployed ondemand. We have not only offered recruitment services to local and international businesses in technology, but also in other industries such as finance, agriculture, government agencies, marketing, healthcare and other major sectorsfinance, agriculture, government agencies, marketing, healthcare, and other major sectors.





#### Pivotal Services offered through this program include:

Data Scientist-on-Demand (Talent Pool Management, Project Support, Project Consultancy Services) Talent Access and Deployment (Freemium Talent Access) Recruitment-as-a-Service (Premium Service)

Recruitment-as-a-Service: http://bit.ly/DSNRaaSF

#### **Expansion of Talents within DSN**

In order to strengthen the team, we have expanded our consulting and operations workforce with experienced business and growth hackers, technical consulting lead, statisticians/data scientists, software engineers and grant/finance management experts from leading local and global organizations. The new model will also afford DSN a platform to scale up, ensure sustainability through self-funding, validate the Nigeria Al ecosystem, accelerate business use cases and provide hands-on learning opportunities for many DSN members (students, young professionals and beginners) across the country through paid internship and project participation.

https://www.datasciencenigeria.org/newtalents/ https://www.datasciencenigeria.org/newqueens/





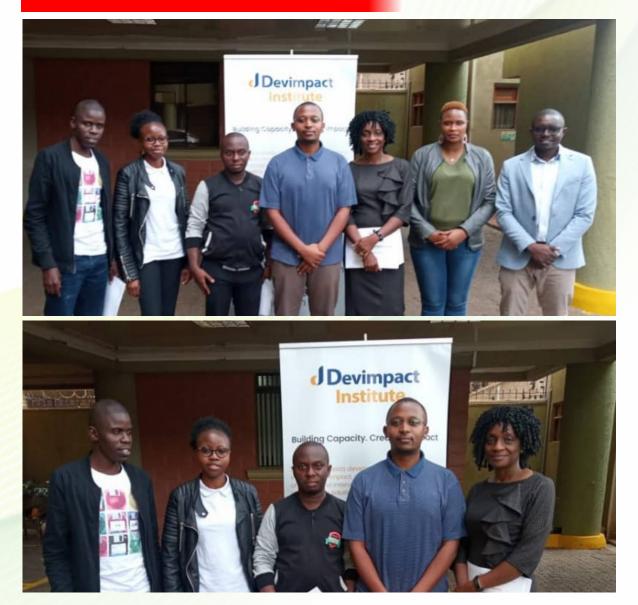
# Data Science Nigeria Staff Retreat



# Data Science Nigeria Staff Retreat



### Grant Management training for staff in Kenya



# Expansion into a new project office - TY Place, Yaba







## Artificial Intelligence for Leadership Training for the Nigerian Army

In a bid to establish strategic relationships with top professionals, we ran an intensive 3 days artificial intelligence Leadership and Strategy training in collaboration with the Nigerian Institute of Management (NIM) for senior officers of the Nigerian Army School of Finance and Administration. The training held at the Headquarters of the Nigerian Army Finance Corps, Apapa, Lagos on the 19th – 21st of November 2019. On the final day of the training, we gave the officers a tour of the KPMG Insights center, Lagos, as part of their immersive practical experience. Apart from deepening our relationship with the public sector, it is expected that exposing leaders to the concept of AI will drive our mission to penetrate more sectors in Nigeria and promote AI-centric leadership strategies in the public sector.



## **Specialized Professional Training for Shell Nigeria**

We also conducted an intensive 4-day customized practical hands-on training on advanced analytics for senior level staff and consultants of the Shell Petroleum Development Company in September 2019 at the Data Science Nigeria Al Hub. This training was tailored to analyse Al contributions in a professional setting.



#### Face-to-Face Business Professional Training

We organised several practical business/Industry-focused hands-on training for entry-level to mid-level corporate/business professionals. These training were led by practicing instructors who function at the highest level of business and academia.



## Building Africa's Artificial Intelligence Talents



## Artificial Intelligence for Business Leaders and C-level Executives

As part of the effort to democratize artificial intelligence knowledge across all decisionmakers cadre, we organized a one-day artificial intelligence masterclass for executives and business leaders. The intent was to help business decision-makers understand the concept of artificial intelligence, and its application, while imparting knowledge on the diverse ways it may be used by Nigerian businesses for sustainable impact through innovative solution development, cost reduction and improved operational efficiency.



The masterclass was facilitated by some of the world's best including one of the fathers of artificial intelligence, Professor Thomas Dietterich, the US-based distinguished professor emeritus at Oregon State University and the founder of BigML. Other speakers at the summit were the Director of Data Science at the world's largest brick-andmortar retailer, US-based Walmart, Dr. Emmanuel Doro; Facebook's Research Scientist, Dr. Eric Sodomka: Dr. Nnnana Orieke, Cloud Solution Architect, Data and Al, Microsoft; Margaryta Ostapchuk, Software Engineer, Microsoft Canada; Sabrina Smai, Software Engineer, Microsoft Canada; Nicholas Litombe, US-based Solution Data Scientist; and Olubayo Adekanmbi, the Convener of Data Science Nigeria and Chief Transformation Officer, MTN Nigeria, among others.

https://www.datasciencenigeria.org/wpcontent/uploads/2019/12/DSN-Brochure.pdf







We are committed to sharing findings on AI trends with the relevant stakeholder. We consistently present our in-house research at global research conferences as listed below:

• NeurIPS 2019: Neural Information Processing Systems (NerIPS) is an international conference where researchers from all over the world gather to discuss the latest trends in the AI field. The 2019 edition held in Vancouver Canada and our research on Classroom Facial Detection and Engagement Optimization was accepted for presentation in the Black in AI stream of the conference.

• ICLR 2019: International Conference on Learning Representations (ICLR) is the world's leading machine Learning conference. We presented our work on the Semantic Enrichment of Nigerian Pidgin English for Contextual Sentiment Classification at the event which took place on April 26,2020.

• Deep Learning Indaba 2019: Deep Learning Indaba is Africa's foremost artificial intelligence gathering of researchers and students. We won the second-best academic poster with our work on NaLie, a natural language-based classification algorithm for fraud detection.

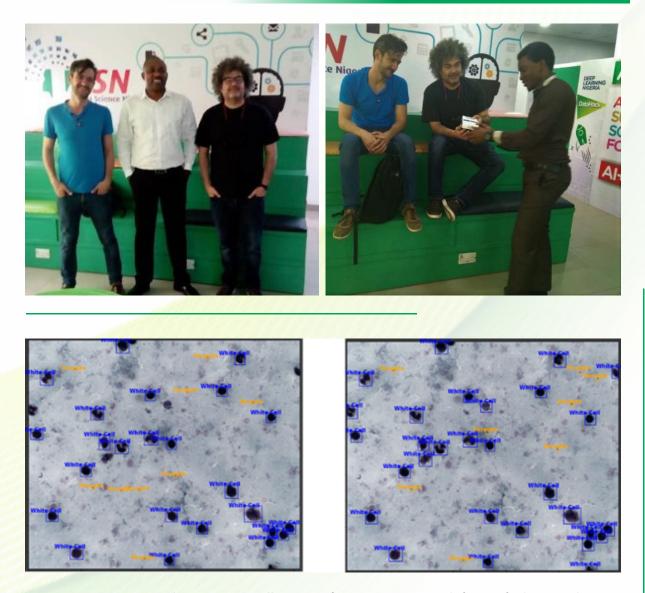
### **Review of Some of Our Key Projects and Partners**

Our in-house researchers continues to explore new frontiers in computer vision, reinforcement learning, and machine learning with these projects:

• Malaria Dataset Analysis in Partnership with the University College London: we built an object detection model that can detect malaria parasites and white blood cell nuclei in micographs from thick film microscopy. These micrographs were labeled by researchers at the University College London and University College Hospital Ibadan, Nigeria.

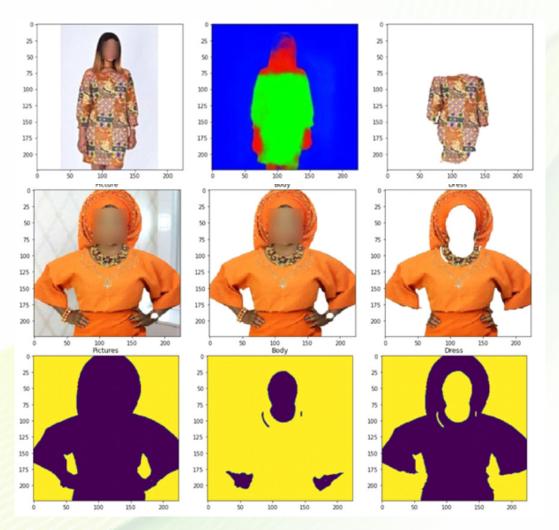
The result was a model that has a mean average precision (MAP) score of 0.837 despite the small amount of training data.

#### Building Africa's Artificial Intelligence Talents



• NaijaNet: NaijaNet dataset is a collection of 70,000 Nigerian/African fashion styles to advance machine learning research and create a familiar dataset for Africans to explore machine learning.

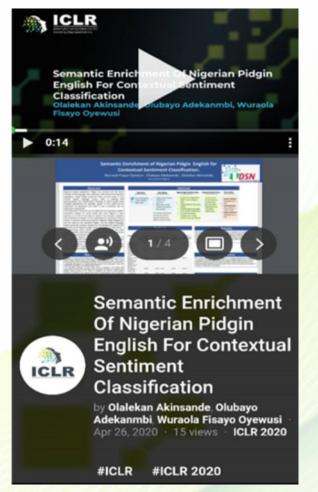
Building Africa's Artificial Intelligence Talents



• Semantic Enrichment of Nigerian Pidgin English for Contextual Sentiment Classification: this research focused on how to optimize sentiment analysis in texts that are pure or code mixed with Nigerian Pidgin English. A dataset that labeled pidgin tweets for their sentiments was also released during this research. This paper was accepted and presented at the ICLR 2020.

Here is a link to the Paper: https://arxiv.org/abs/2003.12450

75



• Al Class Monitor Expansion into Classroom Seating Optimization: we launched an Al tool for human activity detection in a classroom and classroom seating optimization to ensure increased positive engagement and better learning outcomes.

• DataCrowd App - Data Democratization for Social Good and Business Application: DataCrowd is a simple Android-based survey tool designed to facilitate real-time data collection in the form of text, picture, video and sound. It has the capacity for offline data capture and geo-fenced data collection capture that validates the physical presence of the volunteer data collector at the specified location of interest.

• Human Resources CV (Curriculum Vitae) Profiler: as part of our effort to drive more business applications of AI, we built CV profiler to ease the stress of going through thousands of CVs to find the ones corresponding to the job description.

The profiler algorithm matches the CVs to the job description and ranks them based on how they match the job description. The application uses the principles of document retrieval, but instead of just using key terms to match, it uses the idea of word context of the query in the document (CV).

• The application is not to be used as a stand-alone but as a complementary tool to aid the filtering of the CV's for the Human Resources team.

**Research partnership with Al4Development:** Data Science Nigeria collaborated with Dr. Adewale Akinfaderin and his team on a project that uses artificial intelligence to categorize parliamentary bills in Nigeria using optical character recognition (OCR), document embedding, and recurrent neural networks.





**Pan African Impact** and Global Footprint

### Winning the Highest Al Award in Africa

The largest artificial intelligence learning community and solution delivery network in Africa, Data Science Nigeria, won the Matthai Impact Award at Deep Learning Indaba 2019. This was in recognition of its impact on the lives of hundreds of thousands of young people, impacted with Data Science skills, touched via online, offline, face-to-face, content development and job placement. This award is the highest award in data science and artificial intelligence in Africa and was given to our convener, Olubayo Adekanmbi

# Maathai Impact Award Winner 2019



## Olubayo Adekanmbi

Founder of <u>Data Science Nigeria</u>, an initiative training Nigerian data scientists, and strengthening the African machine learning and AI ecosystem more broadly.





#### **Tensorflow Event in Lagos**

We continued to be part of community development initiatives, especially those that are aligned with our growth strategy and capacity building plan. For example, our Business Manager, Hamzat Oluwaseun and Product Lead, Ayodele Olabiyi gave a community development talk at the Google TensorFlow Roadshow held in Lagos on the 9<sup>th</sup> of October 2019. They showcased the work we are doing and our drive towards raising 1 million Al talents.





## Internship Opportunity for Ph.D. Students from the Institute for Mathematics and Physics, Benin Republic

As part of our initiatives to support Al talents on the continent, especially those exploring hands-on research in academic and business intersection, we hosted Ph.D. students from the Institute for Mathematics and Physical Science, Dangbo, the Republic of Benin on a one-month internship at the Data Science Nigeria Al Hub in September 2019. During the period of their internship, the students developed Coding and Machine learning skills to facilitate their research work.



#### Supporting Ecosystems Across Africa

Data Science Nigeria continues to be a flagship brand supporting the development of artificial intelligence practice and community in Africa.

Our AI Knowledge Box has been freely shared in Ghana, Kenya, Gambia and Zimbabwe. We made a significant presentation at the AI Hack, the biggest AI hackathon in Africa, held in August, 2019 in Tunis, Tunisia.



Our team also made a presentation at the PyCon Africa in Accra, Ghana and the World Banksponsored Geospatial Al conference in Abidjan, Cote D'Ivoire, respectively.







#### Zindi Umoja Hackathon

Data Science Nigeria partnered with Zindi Africa to support Africa's first and biggest virtual inter-university machine learning hackathon, UmojaHack Africa 2020. The hackathon was in three different phases based on the difficulties. Out of over 1,000 data science students from across 70 Africa Universities in 15 African countries, Data Science Nigeria Communities (AI+ Clubs) in Nigeria universities performed exceptionally. DSN AI+ Club of the University of Lagos finished 1st in Nigeria and 3rd in Africa.



TOP 3 DATA SCIENCE NIGERIA CAMPUS COMMUNITY

Competition types	Leading Campuses
Beginners	4th position - DSN Al+Unilag (1st position in Nigeria)
	8th position - DSN Al+Futa (2nd position in Nigeria)
Intermediate	4th position - DSN Al+Futa (1st position in Nigeria)
	10th position - DSN AI+Uniben (2nd position in Nigeria)
Advance	<b>3rd position - DSN AI+Unilag</b> (1st position in Nigeria)



## Speaking Engagement at AAAI2020 on AI for Social Good in New York, USA

In February 2020, Data Science Nigeria joined 3,000+ AI experts across the world at the Association for the Advancement of artificial intelligence (AAAI), the world's premier AI conference in New York, USA. Our founder and lead mentor, Bayo Adekanmbi spoke in the AI for good stream on our ongoing work- "Compositionality of the Sociological Paradigm of AI-towards a New Construct". Our AI book for beginners was also showcased and has received great endorsement as a global best practice on how to introduce kids to AI and motivate structural inclusion.



## Building Africa's Artificial Intelligence Talents





## Participation in the **UK Innovation Hub event** in Lagos



## Participation in the visit of the **US Artificial Intelligence** envoy to Lagos



88





Al Bootcamp -the Biggest Learning
 for the Best of the Best We have successfully built the most competitive and engaging learning platform in Africa through our Al Bootcamp program, which includes pre-qualification learning, hands-on project immersion, and an allexpense-paid fully-residential bootcamp.

The 2019 artificial intelligence bootcamp was fully residential, with free meals, accommodation and travel grants to all qualified candidates who went through the intensive Kaggle competition and pre-study activities. The bootcamp learning sessions were enriched by 25 leading experts from different parts of the world who came to Nigeria, including : Margaryta Ostapchuk, Technical Evangelist, Microsoft Canada; Sabrina Smai, Software Engineer, Microsoft Canada; Tom Dietterich, Distinguished Professor at Oregon State University and founder of BigML; Dr. Nnana Orieke, Cloud Solution Architect, Microsoft; Kris Sankaran, of the Montreal Institute for Learning Algorithms, Canada; Anima Anandkumar, Professor of Computing, CalTech, USA; Kathleen Siminyu, Al4Development, Kenya; Dr. Stephen G. Odaibo, CEO, RetinaAl, USA; Samuel Edet, founder of Collog Initiative; Wale Akinfaderin, Senior Data Scientist, Duke Energy; Emmanuel Doro, Data Science Director, Walmart, USA; Uzo Mkparu, Group Head, CRM, Customer Analytics & Insights FCMB; Pascal Bernard, Head of Data Science, OneFi; Elaine Nsoesie, Assistant Professor, Boston University; Kunle Olukotun, Professor at Stanford University; Nicholas Litombe, Data Scientist and Physicist; Robert John, Data Science Officer, EnterFive; Dr. Sakinat Folorunsho, Lecturer, Computer Science, OOU; Olubayo Adekanmbi, Convener of Data Science Nigeria and Chief Transformation Officer, MTN Nigeria, among others.



#### Building Africa's Artificial Intelligence Talents







## Building Africa's Artificial Intelligence Talents



**Qualification Path:** to help as many as possible get started and fine-tune the skills and knowledge in artificial intelligence, DSN kicked off 2019 bootcamp qualifications with the 100days of machine learning (ML) program. This was complemented with a Kaggle competition based on business specific dataset.

#### https://www.kaggle.com/c/titanic2019/leaderboard



#### Posters for Research Display

Building a world-class research ecosystem is part of our vision and one of our strategies for accomplishing this is training researchers from their time as undergraduates and opening opportunities to showcase their various research and scientific writing skills. During our 2019 AI Bootcamp, we called for posters in the AI-for-Good category from our AI+ Community. The Best Poster Award sponsored by Retina AI went to Rising Odegua and team for the poster: WeboDoc; a web-based application for classifying pneumonia and malaria images



RETINA-A

## Al Bootcamp Awards

#### Mr. Algorithm:

this award was presented to Rising **Odegua**. This award was voted for by attendees and given to a male individual who supports community development and knowledge. This category of award was sponsored by Terragon Group. The winner received travel grant to Deep Learning Indaba 2020 in Tunisia.

#### Best Female Data Scientist:

the Best Female Data Scientist award went to Sarah Adigwe. Sarah was the best female participant in the bootcamp's qualifying hackathon and the intercampus quiz competition. She received a travel grant to attend Deep Learning Indaba 2020 in Tunisia courtesy of the MainOne Internet.



#### **Miss Algorithm:**

this award was presented to **Lawal Adeola**. This award was voted for by attendees and awarded to a female individual who supports community development and knowledge. Terragon Group sponsored this category of award as the winner received travel grant courtesy of Terragon Group to Deep Learning Indaba 2020 in Tunisia.z



Artificial Intelligence School of the Year: the AI School award went to the University of Lagos for having the highest number of participants at the 2019 AI Bootcamp.



**Special Recognition Award:** - the Special Recognition award was given to Dr. Victor Odumuyiwa, Director at the University of Lagos Centre for Information Technology and Systems, for his outstanding commitment to Nigeria's artificial intelligence community.



**Industry Support Award:** - to celebrate the works of our industry partners, industry awards were given to the trio of Mr. Emeka Okoye of Cymnatiks, Mr. Adebayo Aderibigbe of Chevron Nigeria, and Mr. Blessing Oladeji of Octave Analytics.





Stellenbosch University Scholarship Award: the winner of the Intercampus Competition, Obinna Onuoha, and the first runner-up, Hakeem Kazeem, received scholarships to pursue Master of Science Degrees in artificial intelligence at the prestigious Stellenbosch University, South Africa. The scholarships were sponsored by Microsoft 4 Afrika and Bluechip Technologies.

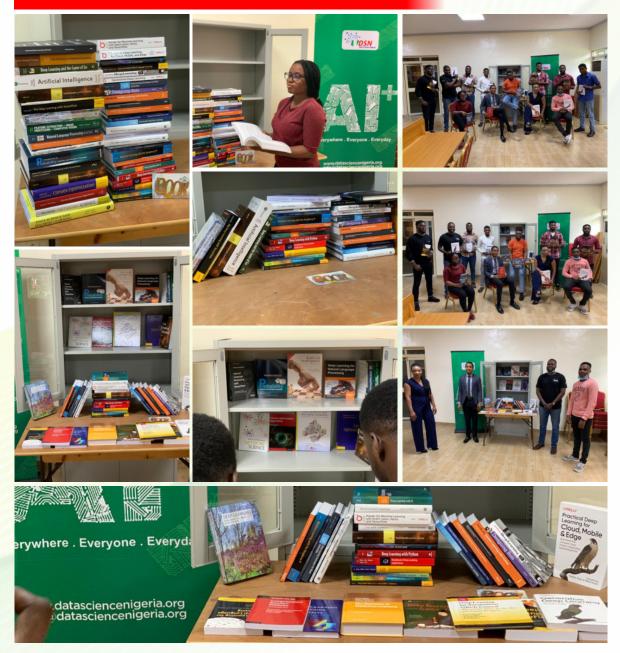




• **Best Poster Award:** the Best Poster award went to Rising Odegua. This award was sponsored by Retina-Al



#### Presentation of latest AI books to the University of Lagos







Inclusion and Gender Data Science Nigeria is an all-gender inclusive organization, with a strong vision of advancing technology for women in AI. We believe inclusion must be deliberate and focused to ensure all segments are practically involved. Our efforts to get more women involved in the world of data science and artificial intelligence resulted in the recruitment of 3 outstanding female data scientists to join our team full time. Our Executive Director for Talent & Process and Innovation and Research Lead are female.



https://www.datasciencenigeria.org/newqueens/

Our drive for increased female inclusiveness in AI has led to the development of this initiatives for ladies in AI.

Ladies in Al Mentoring and Networking Community: Ladies in Al by Data Science Nigeria is a professional learning and networking community targeted towards gender-inclusiveness that benefits the business community by increasing female representation and participation in data science, data analytics, data visualization, data governance & policy, artificial intelligence, machine learning, robotics, and everything data.

It creates a friendly platform for technical and professional conversations, research, networking events, mentoring, and hackathons.

The premier event took place online as a result of COVID-19 and had over 910 Live views during the event on the 31st of May, 2020.

#### Link to Recorded Event: https://www.youtube.com/watch?v=72KV 7mdbOVQ

**Our speakers at the inaugural meetup** were Dr. Jania Okwechime- Associate Director. Deloitte-west Africa Data Analyst Leader; Uzo Mkparu, Assistant VP/Group Head,



CRM, Customer Analytics, FCMB; Bolaji Kujembola-Senior Manager, Technology Demand and Application Management IHS Towers; Mojisola Olawepo- IT Strategist, Sterling Founder, Everythingondata; Aigiomawu Ehiaghe, Co-Founder/CTO, Vesicash.

**Inclusion Policy for our Bootcamp:** as part of our goal to balance gender inclusion among Al practitioners, we developed an inclusion policy that emphasized the provision of non-competitive seats of a minimum of 40% for female at all our competition-based programs. This was demonstrated at the 2019 Al Bootcamp where extra slots were given to ladies, thereby increasing the number of ladies present at the bootcamp. We have also come up with an algorithm for a special allocation of grants and support for ladies to support their visibilities and participation at all our events.

#### Celebrating Female's Milestone Dates -International Day of Women and Girls in Science Celebration

As a gender-inclusive organization driving the impact and participation of women in artificial intelligence, data Science and everything about Data, on International Day of Women and Girls in Science, we celebrated women driving impact, leading, and supporting the artificial intelligence ecosystem in Nigeria and Africa at large.





**Best Female Award at AI Bootcamp to Indaba:** Data Science Nigeria gave a fullexpense grant for the best female at the IndabaX Nigeria to attend the Deep Learning Indaba conference, which took place in Kenya in August 2019. Our winner, Mrs. Opeoluwa Iwashokun, developed Palm (Biometric) Recognition on Android Phones using Deep Learning Approach Palm.





Women in Al Session at Al Bootcamp 2019: To create female-specific mentoring platforms, a new stream was included in the Al Bootcamp to cater for women career development discussion.



#### Data Science Nigeria at the World Bank GIS retreat, Abidjan, Cote D'Ivoire







Building the Future with Kiddies-friendly **Al Summer School** 

## Summer School Training Program

We believe strongly at Data Science Nigeria that there is no future without children. In building a sustainable future, skills must be imparted as early as possible to create more opportunities for the development and grooming of such skills. Children are included in our mission to train a million AI talents in 10 years. As part of our unique learning platforms, we have our **AI Summer School** for children in JSS1 to JSS3 (Grade 7-Grade 9). This is a program with a curriculum created for children and featuring a lot of engaging projects on **Scratch** and **Turtle**. In our weeklong August 2019 Cohort, we introduced the children to Scratch, Python programming, artificial intelligence and robotics.





During this program, the children are involved in daily hands-on in-class projects which reinforce learnt concepts. Moving from this program, a couple of our students went on to win second place in the **MTN Nigeria Kiddies Hackathon 2019.** 

### Online Introductory Class by Mobolurin (Bolu) Adekanmbi – A Teenage Data Scientist

As part of the programmes during the COVID-19 virtual classes, we organized an Introduction to python and machine learning for Kids. This class was facilitated by a young teenage data scientist, Mobolurin Adekanmbi, where he introduced basic python (installation, IDE, expression, variables, data types, etc.). This class was one of our most viewed virtual Bootcamp class on YouTube, with over 27,000 views in less than 2 months.



#### **Pre-University Al class**

Our learning platforms also include programs for pre-university students. This runs under our Al Thursdays training. During this programme, we teach introductory classes on python and machine learning for 6 weeks, with a focus on students who have finished high school and awaiting admission to tertiary institutions. The classes are project-based, and skills validated with an inclass Kaggle competition. We ran 2 cohorts of this classes in 2019, training over 200 students across Nigeria.





Links(s): https://twitter.com/DataScienceNIG/status/1227965893201842176

#### Al for Social Good Debate for Secondary School at the Al Summit 2019

The artificial intelligence for Socio-Economic Development Summit, held at the Oriental Hotel, Victoria Island, Lagos on Tuesday, November 19, 201,9 from 8 am to 1 pm also had students from various schools in attendance. An AI debate was included on the agenda for the 2019 AI summit, to ensure the voices of students were heard in the global conversation on AI. The debate featured top schools in Lagos. Julliard Academy won the debate, Chrisland School, Opebi was the first runner-up, and Atlantic Hall, Epe was the second runner-up. Each school that participated was given an award and free copies of the Beginners' Artificial Intelligence and Python Programming book.







# Community and Capacity Building Models

## **Mentorship Support**

Last year, we were privileged to run a mentoring stream supporting many of our Al+ members. Eligible members of our Al+ Community had the opportunity of being mentored for career and skills development by our astute world-class mentors. This program catalyzed many careers and created opportunities for many Al+ community members, including international participation and high-impact higher degrees (MSc/Ph.D.)



Link(s): Mentors: https://www.datasciencenigeria.org/mentors/

Name	Position Title	C
Name		Company
Alistair Miles	Head of Epidemiological Informatics at the Centre for Genomics and Global Health	University of Oxford
Jeff Herman	Data Scientist	Kansas City Southern Railway
Moyosoreoluwa Akala	Data Scientist	Hood Group, United Kingdom
Samuel Edet	Doctoral Researcher	IMT School for Advanced Studies, Italy
Sharat Manikonda	Data Scientist	ExcelR and Innodatatics
Stephen Olateru	Big Data Specialist	
Dr. Wale Akinfaderin	Senior Software and Data engineer	
Rishabh Upadhyay	Data Scientist	Darkmatter
Abiodun Shomoye	Team Lead	DatalQ Nigeria
Alex Conway	Research Director	NumberBoost

Babatunde Olorisade	Software Engineer	Keele University
Damilola Ojo	Partner and Head of Data farm Analytics Enablement	Delta Partners
David Adelani	Ph.D. Student	MPI-SWS
Dr. Arinze Akutekwe	Senior Data Scientist	Fujitsu
Dr. Johnson lyilade	Principal Data Science and Engineering Consultant	Glomacs IT Solutions and Services
Dr. Kingsley Okoye	Data Architect	Tecnológico de Monterrey
Dr. Kolawole Adebayo	Research Fellow	CIRSFID, Bologna
Dr. Phil Ogun	Senior Research Associate in Manufacturing Automation and Informatics	Loughborough University
Dr. Ransford Hyman	Sensei On-Device Machine Learning Engineer	Adobe
Dr. Raphael Yemitan	Senior Manager Advanced and Predictive Analytics	PwC Nigeria
Dr. Sulaimon Afolabi	Data Scientist	GetSmarter

Dr. Taiwo Ajani	Program Coordinator, Computer Information Systems	Ferrum College, Virginia
Dr. Taiwo Togun	Founder/CEO/Data Scientist	SeqHub Analytics LLC
Humphrey Obie	Postdoctoral Research Fellow   Values-oriented Software Engineering	Monash University
Jean François Aie	Manager, Advanced Analytics	Aimia Inc, (Toronto, Canada)
Jeremiah Fadugba	Al Developer	Nal Vietnam JSC
Koye Sodipo	Associate	Bain & Company
Ladi Omole	Partner	LaDIOM LLC
Abayomi Adelowotan	Lean Six Sigma and Data Analytics Advisor	Chevron
Mohit Nalavadi	Data Scientist	Commerce tools
Ngozi Dozie	Co-founder	Carbon
Olalekan Aboubakar	Sr Data Scientist	SiriusXM

Olalekan Akinsande	Data Scientist/ Technical Delivery Lead	Data Science Nigeria
Omobolaji Kujembola	Data and Analytics (Analytics Innovation and Strategy Lead)Assistant	PwC
Prof. Diane Igoche	Professor	Robert Morris University
Rahmon Ojukotola	Founder/CEO	StartCredits
Yigal Weinberger	Lead Data Scientist	Palo Alto Networks
Liemiso Mpota	Data Scientist	Sasfin
Eric Hamers	Data Scientist	Zoop
Yasser Hossam	Data Analytics Consultant	DataZone
James Allingham	Deep Learning Consultant	Wolfram Research
Leif Sigerson	Data Scientist	Pinterest
Deepanshu Setia	Senior ML Engineer	Samsung R&D

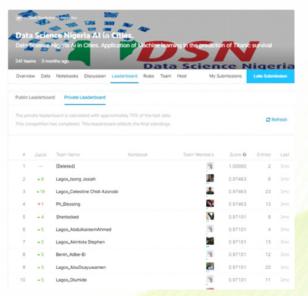
Sijuade Oguntayo	Machine Learning Engineer	Omdena
Dr. Dumebi Okwechime	Chief Decision Scientist	RenMoney
Oluwole Ogungbesan	Advanced Analytics & Automation Lead	UBS AG
Corne Nagel		
Dr. Uyi Stewart	Senior Director, Data Science	Seattle Genetics
Dr. Olufemi Oyenuga	Chief Customer Architect- ECEMEA, Data Scientist	ECEMEA
lyinoluwa Aboyeji	Member board of the Governors	OneAfrica
Dr. Samuel Durugo	Senior Data Scientist	Stint
Abiodun Modupe	Lecturer	University of Witwatersrand- University of Pretoria
Faith Mwema	Data Analyst	SAP SuccessFactors
Aneshan Ramaloo	Customer Advisory- Artificial intelligence	SAS Sydney



## Al Cities Project-based Kaggle with 241 Participants Solving Real Problems

As part of our contribution to skill validation for our Al in Cities training in 17 cities in Nigeria, we hosted a Kaggle competition which lasted for a week. During the competition, 1,179 entries were recorded from the 241 competitors across the participating Al+ Communities. After a thorough analysis of the distribution of cities on the leaderboard, our belief that talents are everywhere was validated, as 233 of these had this competition as their first attempt at Kaggle. Free copies of our Al Book were given to the top three Kagglers in each participating Al+ Community. A total of 81 free copies of the book were distributed during this period to upskill further and encourage participation.

**Picture**: <u>https://www.kaggle.com/c/data-science-nigeria-ai-in-citie/leaderboard</u> Link(s): <u>https://twitter.com/DataScienceNIG/status/1242058058634858498</u>



## Hands-on Hackathon – Max.ng/SeqHub/Data Science Nigeria Joint Hackathon

As part of our goal to raise industry-ready Al talents and deepen the application of artificial intelligence for business use-cases, we organized the Hack the Future Ideathon in partnership with MaxNG, one of the foremost leaders in the bike-hailing and logistics industry in Nigeria, and SeqHub Analytics based in the USA. The Hack the Future challenge was a competition for Al/machine learning experts, researchers, and students with practical and bold Al/machine learning applications or solutions that can add immediate value to companies in the logistics or bike-hailing industry like MaxNG. The competition provided a platform for participants to showcase their skills, talents, and innovative ideas to interested stakeholders. In return, they were rewarded with cash prizes and a high-quality internship with SeqHub Analytics.

Out of 40 brilliant entries, 7 teams were selected to present their Al concepts/prototype at the final pitch event held on the 18<sup>th</sup> of January 2020 at the Data Science Nigeria Al Hub, Yaba, Lagos. Team VISEF comprising of Ojewale Victor, Oladapo Oluwaseun and Adebayo Faith came first, winning \$700 and an interview opportunity with SeqHub Analytics. Team Maxcluster comprising of Bamigbade Opeyemi, Babjide Oluwatobi, Funminiyi Oladapo were the first runner-up, winning \$300 and an interview opportunity with SeqHub Analytics. Team DSN AI+ LASU comprising of Aminu Israel, Olamilesi Animashaun, Tijani Jamiu were the second runner-up, winning an interview opportunity with SeqHub Analytics.

The competition judges were Olusegun Leigh, SeqHub Analytics Nigeria Manager; Kalada Kienka Technical Manager, MaxNG; Michael Nwoseh, Strategy Growth Lead, Data Science Nigeria; and Koye Sodipo, Product Manager, Microsoft Nigeria.



## **Onboarding Campus Leads on Project Participation and Paid Internship**

In its quest to raise 1 million Al talents in 10 years and position Nigeria as a leading Al Hub, Data Science Nigeria expanded its learning model by integrating a paid internship programme for students. Students were engaged at the Data Science Nigeria Al Hub for research, project participation, and teaching tasks. The trio of Rising Odegua, Stephen Oni, and Odemakinde Elisha were onboarded in early 2020.



Corporate Internship for Community Members: Data Science Nigeria continues to be a major talent pipeline for the country and has created an internship scheme for its students' network to participate in the fourth year university and National Youth Service Corps (NYSC) internship program across top organisations in Nigeria.

At the 2019 Al Bootcamp, the two best performers in the AXA Mansard sponsored competition on insurance risk algorithm development, Raheem Nasirudeen, and Adegunle Babatunde secured paid internships with reputable organisations in Nigeria.



## Job Placements and Recruitment as a Service

Data Science Nigeria has evolved to become a leading outsourcing hub of data science and artificial intelligence professionals in Nigeria. We run the data scientists ondemand program, which allows companies to access talents from our pool of community experts across different expertise cadre. We also help companies to recruit Al talents.







# Data and Al for National Impact and Government

## Partnership with the National Economic Summit Group on Data Nerve Centre Project

Data Science Nigeria is currently partnering with Nigeria's foremost economic advocacy group, the National Economic Summit Group to build a Data Nerve centre in Nigeria that would help drive economic growth and development, through the use of Artificial intelligence-driven decisions. This is in alignment with the Data Science Nigeria's vision to leverage AI for a 20% GDP multiplier effect factor.

The phase 1 of the project, which was executed in partnership with Octave Analytics team include the following:

· Building a data map for sustainable economic growth (SEG) A tree structure that

identifies every unique indicator that determines inclusive, competitive and economicgrowth

• Data visuals and models that were able to point out unique indicators and parameters that could aid economic growth

In the long run, the team was able to come up with a data map for sustainable economic growth and a model which pointed out five unique indicators in the manufacturing sector such that if embarked upon, there will be a GDP rise by 40.3%.

**Al for Social Good Conference:** As part of the effort to drive the nationwide application of artificial intelligence, Data Science Nigeria hosted its annual Artificial Intelligence Summit in November 2019 focused on highimpact socio-economic development.





## Supported the World Bank on Geospatial Hackathon:

Data Science Nigeria supported Data4Governance Hackathon organized by the World Bank and CcHub Lagos. Two of our staff, Olalekan Akinsande and Olusola Oseni, facilitated a hands-on session on geospatial data visualization best practices. We taught the participants how to create interactive geospatial data visualization using MapBox and Microsoft Power BI. We also shared best practices on problem-solving with geospatial data analysis, programmatic geospatial data visualization with Folium (a Python mapping Library) and Leaflet.js.



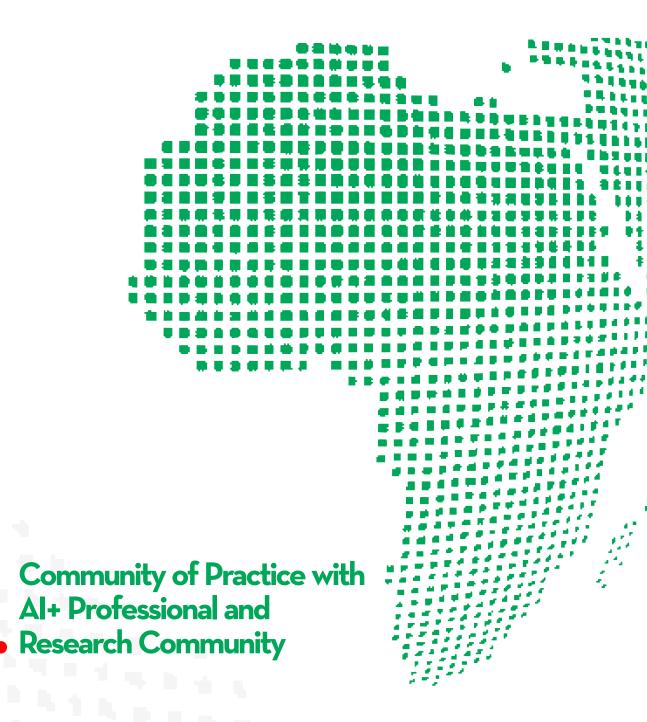


## Participation in the 2020 Digital Skills Agenda-setting by the Ministry of Youths and Sports

As one of the leading organizations championing the training and capacity building of young people across Nigeria in data science and artificial intelligence, Data Science Nigeria was one of the few partners invited to the National Youth Policy Workshop, which focused on the complete development of young people, as well as their participation in nation-building.





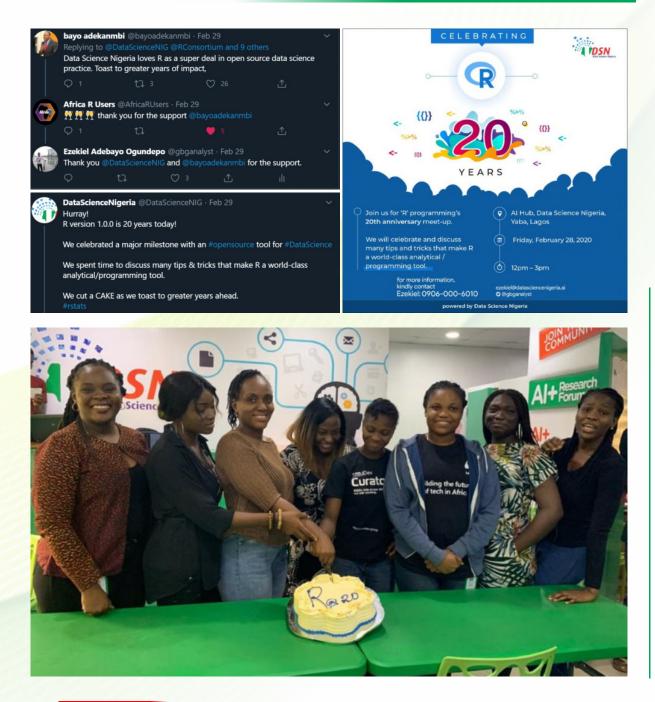


## R Experts Meet-up to Celebrate Its 20th Anniversary

Data Science Nigeria brought together industry and academic users of R platform to celebrate its 20th anniversary at the AI Hub, Yaba. The session also afforded an opportunity to discuss many tips and tricks that make R a world-class analytical/programming tool and had over 50 R users in attendance.

R is a programming language and free software environment for statistical computations, data cleaning, data analysis, and graphical representation of data. The R language is widely used among data scientists for developing statistical software and data analysis. The R community, which included the African R Users Meeting (ARUM) and the European R Users Meeting (ERUM), recognized Data Science Nigeria for spreading the awareness and the use of R in Nigeria, especially in her various free R masterclasses/training events.





Also, one of our in-house R user data scientists, Ezekiel Ogundepo, was awarded a travel grant (€1000) to attend the ERUM2020 conference in Milan, Italy. The European R Users Meeting is a biennial scientific conference focusing on the use and development of the R language, an opensource and widely used statistical language and environment both in academia and industries. The ERUM conference hosts more than 500 attendees from Europe and other parts of the world as well.

#### **Al+Newsletter**

We released the first edition of our Al+ community newsletter, Al+ Newsletter.

The Al+ Newsletter mainly focuses on the following key areas:

- DSN community updates
- DSN upcoming events
- · Al/Data/Digital news update
- Global best practices on AI/data/digital in action
- Ecosystem trends: apps, API, fintech
- AI/Digital trends for the month
- Interesting articles by AI Community members
- Opportunities scholarships, grants, fellowships and funding

#### **Career Development Workshop**

As part of the effort to simplify the path towards building a career in data science, the convener of Data Science Nigeria, Bayo Adekanmbi facilitated a one-day workshop on Monday, May 4, 2020. The masterclass focused on how to build a world-class career in Analytics, Data Science, artificial intelligence, and everything data.

The class went beyond the hype and the buzzword and provided a veritable guideline laying a solid foundation in a career path that currently ranks No 1 in the US for the 4th year in a row according to Glassdoor.com He extensively shared practical skills from his 20 years of hands-on multi-domain experience and growth as a C-level analytics business leader, academic researcher, a practitioner with growing Kaggle portfolio, and AI patent ownership.

TIME

5:30pm ·

7:30pm

(GMT+1)

DATE

Monday 4

May 2020





## Bayo Adekanmbi

- Chief Transformation Officer, MTN
- Convener, Data Science Nigeria
- 20 year experience in Analytics, Strategy, Digital Transformation and Data Science
- Doctoral level researcher

## Beyond AI Masterclasses for Non-core Data Scientists – Modeling with Excel for Finance Professionals

Data Science Nigeria held the Modeling with Excel for Financial Professionals during the year to reach out to non-core data scientists.

The Master class was facilitated by our Finance and Grant Manager and data science enthusiast, Tunmise Johnson.



Data Science Nigeria presentation at Eko Innovation Centre Data for HR masterclass

#### **International News Mentions**

#### UNESCO Report on Steering AI and advanced ICTs for knowledge societies:

https://www.developmentaid.org/api/frontend/ cms/uploadedImages/2019/11/372132eng.pdf

#### World Economic Forum:

https://www.weforum.org/agenda/2020/06/4ways-african-governments-can-bridge-thedigital-skills-gap-for-a-post-covid-economicrecovery/

#### International Telecommunications Union (ITU) AI for Good: Global Impact report

https://www.itu.int/en/itunews/Documents/20 20/2020-02/2020 ITUNews02-en.pdf https://guardian.ng/technology/ai-haspotential-to-solve-humanitys-biggestchallenge/

#### Deep Indaba Review by OneZero

https://onezero.medium.com/africa-is-buildingan-a-i-industry-that-doesnt-look-like-siliconvalley-72198eba706d

#### GRID3:

https://grid3.org/news/supporting-artificialintelligence-with-geospatial-data-in-nigeriagrid3-joins-data-science-nigerias-ai-bootcamp

# Al Expo Africa Review of African Al ecosystem

http://aiexpoafrica.com/2020/01/06/artificialintelligence-africa-will-2020-tipping-point-

#### <u>african-ai/</u>

State of Data and Analytics in Nigeria by KPMG http://bit.ly/KMPGReport

#### Al Alliance Al Start-ups in Africa

https://medium.com/alliance4ai/ai-generationlearnings-from-alliance4ais-first-100-startupsin-africa-acfba0f753d1

#### Al Champions of 2019

https://www.alliance4ai.org/the-surpriseadopters-of-ai-in-2019/

#### **Deep Indaba Grand Challenge**

https://deeplearningindaba.com/grandchallenges/leishmaniasis/

#### Equitable Health City

http://equitablehealthycities.org/blog/thedeep-learning-indaba/

# Leading Al Organisations in Africa my MC.Al https://mc.ai/four-organisations-promoting-

artificial-intelligence-in-africa/

#### DigiLaw Al leadership in Africa

https://www.digilaw.com.ng/2020/03/04/the-aiindustry-in-africa-the-booming-startups-andindigenous-ai-promotion-organizations/





- Bill and Melinda Gates Foundation
- Microsoft
- Mr. Bayo and Mrs. Toyin Adekanmbi
- Bluechip
- Terragon
- Xlytics Innovation
- AXA Mansard Nigeria
- Al Retina
- Al Common
- Al4D
- Mr Bayo Aderibigbe
- Mr Dele Arikawe





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- Max.ng
- Octave Analytics
- Lagos Business School
- Instadeep Uk
- Kpmg Nigeria
- Zindi Africa
- Techcabal
- Guardian News
- Technext
- First City Monument Bank
- African Fintech Foundry
- Insight-2-impact Cape Town
- Kazeem Tewogbade
- Olumide Soyombo
- Emeka Okoye
- Leke Adekoya
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- Amina Sambo Magaji
- Women's Technology Empowerment Centre - W.tec
- Indomie
- Dr. Jania Okwechime
- Aigiomawu Ehiaghe
- Mojisola Olawepo
- Bolaji Kujembola
- · Olanrewaju Oyinbooke
- Bayo Adesanya

### **Knowledge Volunteers**

- Blessing Oladeji
- Tyler Lu Ph.d
- Samuel Edet
- Jerry Fadugba
- Dr. Stephen Odaibo
- Emmanuel Eze
- Adeyemi Odeneye
- Ismail Wale Salami
- Balogun Oloruntobi Emmanuel
- Ebeh Elisha
- James Ononiwu
- Njemuwa Victor
- Fole Jabulani
- Chima James
- Gabriel Precious
- Oluwabukunmi Ige
- Mubaraq Sanusi
- Peter Okwukogu
- Kolawole Stephen
- Jaye Gbenga
- Adekanbi Yosola
- Tochi Ebere
- Michael Inaolaji
- Isaac Anako
- Farouk Abubakar Audu
- Miss Cyntia Orife
- Somtochukwu Okobi
- Josiah Erhovwo Itse
- Opeyemi Seriki
- Cynthia Abu
- Alo Joel
- Fadahunsi Ibukun Grace

- Arnold Ighiwiyisi
- Emoe-kabu Benedict Oshomah
- Temitope Beloved
- Edet Blessing
- Ogunbajo Adeyinka
- Odunuga Julius
- Oludupin Boluwatife
- Ismail Ahmed
- Sotunbo David
- Tamunopriye Dagogo-george
- Amamgbu Jesse Tochukwu
- Ani Chinonso O.
- Osisiogu, Ukachi
- Maduakor, Francis
- Nkiruka Odu
- Ganiyu, Olalekan
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- Odunuga Julius
- Oludupin Boluwatife
- Ismail Ahmed
- Oshingbesan Adebayo
- Omailey James
- Longe Promise
- Munniru Abdulhamid
- Zunnurayni Idris
- Abubakar Sadiq Aminu
- Olusegun Leigh
- Kalada Kienka

140

### Hosts And Hubs For Ai In Cities

Location	Hub	Host
Aba	Innovation Growth hub, Aba	Ufere Samuel
Abuja	Digital Peers International	Mrs. Omojola Funmilola Victoria
Abuja	Social Impact Hub	Harrison Imonikhe
Yola	RITC YOLA	Munniru Abdulhamid
Bauchi	STEMTeers	Faith Ezedi
Asaba	Coriftech Computer Hub	Cynthia Orife
Delta	WittyHub	Onose Oghenevwogaga

## Building Africa's Artificial Intelligence Talents

Kaduna	Lexington Hub	Suraj Bamalli
Lokoja	Lokoja Hub/ Al-Azhar International College	Mr. Saheed Adedamola Adewuyi
Lokoja	Mentor-Box	Eunice Emmanuel-Bagi
Abeokuta	720DegreeHub	Adebayo John
Abeokuta	Ogun Tech Hub/ Lead Resources	Williams Adesina
Jos	nHub Foundation	Tochi Ebere
Port Harcourt	FutureSphere Innovation Hub	Delight Uche-Aniche
Benin-City	South-South Innovation	Mr. Osayi
Lagos	Data Science Nigeria, Al Hub	Olubayo Adekanmbi

## **Al in Cities Facilitators**

- Ebeh Elisha
- James Ononiwu
- Njemuwa Victor
- Fole Jabulani
- Chima James
- Gabriel Precious
- Oluwabukunmi Ige
- Mubaraq Sanusi
- Peter Okwukogu
- Kolawole Stephen
- Jaye Gbenga
- Adekanbi Yosola
- Tochi Ebere
- Michael Inaolaji
- Isaac Anako
- Farouk Abubakar Audu
- Miss Cyntia Orife
- Somtochukwu Okobi
- Josiah Erhovwo Itse
- Opeyemi Seriki
- Cynthia Abu
- Alo Joel
- Fadahunsi Ibukun Grace
- Arnold Ighiwiyisi
- Emoe-kabu Benedict Oshomah
- Temitope Beloved
- Edet Blessing

- Ogunbajo Adeyinka
- Odunuga Julius
- Oludupin Boluwatife
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- Sotunbo David
- Tamunopriye Dagogo-george
- Amamgbu Jesse Tochukwu
- Ani Chinonso O.
- Osisiogu, Ukachi
- Maduakor, Francis
- Nkiruka Odu
- Ganiyu, Olalekan
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- Ifenyi Egwu
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- Munniru Abdulhamid
- Zunnurayni Idris
- Abubakar Sadiq Aminu
- Ezekiel Adebayo Ogundepo
- Odemakinde Elisha
- Aboze Brain

#### **Community Partners**

Zindi Africa Data Science North Africa and Arabia Deep Learning Indaba Alliance for Al Al Expo Africa DataCon Africa **AAIMLON** Nigeria Artificial Intelligence for Development Network for Africa Data Science Africa Data Science Zimbabwe Al Kenya Al Ghana Google Developers Group (GDG) Tensorflow Communities in Nigeria School of AI Port Harcourt PyCon Africa **PyCon Nigeria** Python Nigeria **R** Nigeria Start-Up South Black in AI community GalsenAl

#### **In-Kind donors**

MainOne - Free Internet at the Al Hub, Yaba, Lagos, Nigeria Dr. Eric Sodomka, Facebook London - Library Book donation

144

#### Building Africa's Artificial Intelligence Talents

## Artificial Intelligence 2019 Speakers

**Dr Dumebi Okwechime** Chief Decision Scientist, RenMoney

**Elaine Nsoesie PhD** Assistant Professor at Boston University

**Nicholas Litombe PhD** Data Scientist, USA

**Edith Darin** GRID3 Nigeria Researcher

**Emilie Schnarr** GRID3 Nigeria Manager

Maxwell Madzikanga GRID3 Nigeria Manager

Jolynn Schmidt GRID3 Nigeria Programme and Data Analyst

**Prof. Thomas G. Dietterich** Emeritus Professor of Com. Sc. USA

Kris Sankaran PhD MILA Canada

**Sabrina Smai** Microsoft Canada

**Prof Delmiro Fernandez-Reyes** Professor of Biomedical, Uni. College London **Eric Sodomka PhD** Facebook Research USA

Margaryta Ostapchuk Microsoft Canada

**Guillem Vidal** BigML, Spain

**Pascal Bernard** Head of Data Science, OneFi, UK

Michael Harper, GRID3 Nigeria Data Analyst

Kathleen Siminyu Al4Development, Kenya

**Dr. Stephen G. Odaibo** CEO, Retina AI USA

Sophie Delaporte GeoSpatial AI, UK

Samuel Edet Joint PhD. Student IMT, Italy and Ku Leuven, Belgium

**Emmanuel Doro PhD** Director, Data Science, Walmart, USA

**Jacobo Varela** OneFi, London, UK

**Uzo Mkparu** Group Head, CRM, Customer Analytics & Insights FCMB

145

Inuwa Ya'u Barau GRID3 Nigeria National Coordinator

**Alina Game** GRID3 Nigeria Data Analyst

**Wole Ademola Adewole** GRID3 Nigeria GIS Consultant

**Blessing Oladeji** CEO & Co-Founder, Octave Analytics

**Dr. Nnana Orieke** Cloud Solution Architect Data and Al at Microsoft

**Wuraola Oyewusi** Data Scientist, Data Science Nigeria

**Opeoluwa Iwashokun** Data Scientist, Octave Analytics

## Artificial Intelligence book for kids global reviewers

#### Dr. Kirk Borne,

Principal Data Scientist and Data Science Fellow at Booz Allen Hamilton, USA

#### Dr. Uyi Stewart,

Executive Director, AI Commons; previously, Director, Strategy, Data & Analytics, Bill and Melinda Gates Foundation, USA

#### **Prof Bitange Ndemo**

Professor of Entrepreneurship, University of Nairobi and Chairman Blockchain and Artificial Intelligence Taskforce, Kenya.

#### **Dr. Richard Socher**

- Chief Data Scientist, Salesforce, USA

#### **Professor Alan Blackwell**

Director of Research, University of Cambridge's Global Challenges Initiative, United Kingdom

#### **Dr. Jacques Ludik**

Founder & Executive Chairman, Cortex Group; Founder & MD, Cortex Logic; Founder & President, MIIA, South Africa

#### **Brigette Hyacinth**

- Thought Leader in Leadership, HR, Artificial Intelligence (AI) and Digital Transformation. Trinidad and Tobago

#### **Ulrich** Paquet

Co-founder, Deep Learning Indaba and Research Scientist, DeepMind, UK.

Karim Beguir, Co-Founder and CEO, Instadeep UK

#### **Dr Evans Woherem,** Chairman, Digital Africa

1 million Artificial Intelligence talents in 10 years

## Data Science Nigeria AI+ Clubs - Campus Leads

Name	University	Role
Paul Okewunmi Temiloluwa	Obafemi Awolowo University, Ile-Ife	Campus Lead
Grace Omojola	Obafemi Awolowo University, <mark>Ile-Ife</mark>	Campus Deputy
Asanloko Tejumola Adeseun	University of Ilorin, Ilorin	Campus Lead
Muhammad Suleiman Folorunsho	University of Ilo <mark>rin, Ilorin</mark>	Campus Deputy
Aminu Isreal Boluwatife	Lagos State University, Lagos	Campus Lead
Akintunde Caulcrick	Lagos State University, Lagos	Campus Deputy
Emmanuel Oludare Praise	Ladoke Akintola University, Ogbomosho	Campus Lead
Adegoke toluwani bolu	Ladoke Akintola University, Ogbomosho	Campus Deputy
Faruq Ahmed	Bayero University, Kano	Campus Lead
Mustapha Ibrahim	Bayero University, Kano	Campus Deputy
Nwoke Tochukwu	Bells University of Technology, Ota	Campus Lead
Ugochukwu Victor	Bells University of Technology, Ota	Campus Deputy
Ebeh Elisha Chidera	Michael Okpara University of Agriculture, Umudike	Campus Lead
Njemuwa Victor	Michael Okpara University of Agriculture, Umudike	Campus Deputy
Chima James Nwakigwe	Federal University of Petroleum, Delta State	Campus Lead
Churchill Anigbobi	Federal University of Petroleum, Delta State	Campus Deputy
Okegbemi Lawrence	Federal University of Technology, Akure	Campus Lead
Shuaibu Alexander	Federal University of Technology, Akure	Campus Deputy
Jewel Uguru	Enugu State University oScience and Technology, Enugu	Campus Lead
Nwobodo Leonard	Enugu State University of Science and Technology, Enugu	Campus Deputy
Opeyemi Bamigbade	Univiersity of Lagos	Campus Lead

Alake Edah	University of Lagos	Campus Deputy
Olaniyi Taofeeq Olatunde	Federal University of Oye-Ekiti, Ekiti state	Campus Lead
Oluwaloni Emmanuel	Federal University of Oye-Ekiti, Ekiti state	Campus Deputy
Temitope Beloved Olamilekan	Federal University of Agriculture, Abeokuta	Campus Lead
Kolawole Stephen	Federal University of Agriculture, Abeokuta	Campus Deputy
Atom Emmanuel	Federal University of Technology, Minna	Campus Lead
Kenneth Lstifanus	Federal University of Technology, Minna	Campus Deputy
Alo Joel	University of Benin, Benin city	Campus Lead
Nnachor Ugochukwu Peter	University of Benin, Benin city	Campus Deputy
Ernest Owojori	University of Ib <mark>adan, Ibadan</mark>	Campus Lead
Odeajo Isreal	Universit <mark>y of Ibadan, Ibadan</mark>	Campus Deputy
Aigbokhaevbo lwinosa		
Osamudiamen	Ambrose Ali University, Ekpoma	Campus Lead
Silas Godwin	Ambrose Ali University, Ekpoma	Campus Deputy
John Oloyede	Bowen University, Iwo	Campus Lead

## Data Science Nigeria Al+ Community - City Leads

City	Position	Full Name
Abeokuta	Lead	Ogunbajo Adeyinka
Abeokuta	Deputy	Adeniye Kehinde Afusat
Abeokuta	Deputy	Edet Blessing
Abuja	Lead	Osisiogu Ukachi
Abuja	Deputy	Chinonso Ani
Abuja	Deputy	Michael Olanipekun
Ado-Ekiti	Lead	Bakare Kolade Emmanuel
Ado-Ekiti	Deputy	Opeyemi Osakuade
Akure	Lead	Damilola Olaseinde
Akure	Deputy	Emmanuella Nwifor
Akure	Deputy	Fagunloye Olamiposi

AsabaDeputyFarouk AuduAsabaDeputyFarouk AuduAsabaDeputyJude IfenliochukwuBauchiLeadIbrahim Dattijo MakamaBauchiDeputyIfeanyi UgwuBeninLeadGrace IbukunOluwaBeninDeputyArnold IghiwiyisiBeninDeputyCharles Onyema IgahCalabarLeadInnocent ThomasCalabarDeputyJessica OfemEnuguLeadCalistus IgwiloEnuguDeputyMbah StanleyEnuguDeputyOmeh ChukwuemekaGombeLeadAliyu Ibrahim SulaimanIbadanDeputyRaheem NasirudeenIbadanDeputyGbede TemitopeIjebu-OdeDeputyGbede TemitopeIjebu-OdeDeputyAdeyemi AdedoyinIlorinLeadTejumola AsanlokoIlorinDeputySangodoyin OlakunleJosDeputyGideon YakubuKadunaLeadOluwabukunmi IgeKadunaLeadOluwabukunmi IgeKadunaLeadJato Fanan JosephKanoLeadJato Fanan JosephKanoLeadJato Fanan Joseph	Asaba	Lead	Fole Jabulani Ogheneovo
AsabaDeputyJude IfenliochukwuBauchiLeadIbrahim Dattijo MakamaBauchiDeputyIfeanyi UgwuBeninLeadGrace IbukunOluwaBeninDeputyArnold IghiwiyisiBeninDeputyCharles Onyema IgahCalabarLeadInnocent ThomasCalabarDeputyAndoya VitalisCalabarDeputyJessica OfemEnuguLeadCalistus IgwiloEnuguDeputyMbah StanleyEnuguDeputyOmeh ChukwuemekaGombeLeadAliyu Ibrahim SulaimanIbadanDeputyRaheem NasirudeenIbadanDeputyGbede TemitopeIjebu-OdeDeputyGbede TemitopeIjebu-OdeDeputyAdeyemi AdedoyinIlorinLeadTejumola AsanlokoIlorinDeputySangodoyin OlakunleJosDeputyGideon YakubuKadunaLeadOluwabukunmi IgeKadunaLeadOluwabukunmi IgeKadunaDeputySanusi LawalKadunaDeputySanusi LawalKadunaLeadJato Fanan Joseph	-		
BauchiLeadIbrahim Dattijo MakamaBauchiDeputyIfeanyi UgwuBeninLeadGrace IbukunOluwaBeninDeputyArnold IghiwiyisiBeninDeputyCharles Onyema IgahCalabarLeadInnocent ThomasCalabarDeputyAndoya VitalisCalabarDeputyJessica OfemEnuguLeadCalistus IgwiloEnuguDeputyMbah StanleyEnuguDeputyOmeh ChukwuemekaGombeLeadAliyu Ibrahim SulaimanIbadanLeadAbass OLaiya AyotundeIbadanDeputyGbede TemitopeIjebu-OdeLeadAkinyiga Obadamilare DunmininuIjebu-OdeDeputyOluwatobi BanjoIlorinLeadTejumola AsanlokoIlorinDeputySangodoyin OlakunleJosDeputyGideon YakubuKadunaLeadOluwabukunmi IgeKadunaDeputySanusi LawalKadunaDeputySanusi LawalKadunaDeputySanusi LawalKadunaLeadJato Fanan Joseph			
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JosDeputyGideon YakubuKadunaLeadOluwabukunmi IgeKadunaDeputySanusi LawalKadunaDeputySanusi MubaraqKanoLeadJato Fanan Joseph	Jos		Ebere, Tochi Chioma
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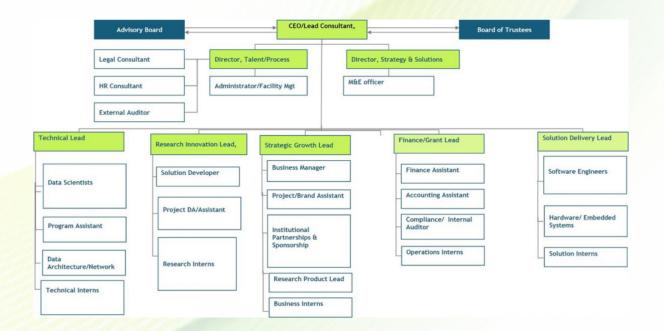
Kano	Deputy	Abdulrahman Sulaiman
Lokoja	Lead	Julius Odunuga
Lokoja	Deputy	Oludupin Boluwatife
Lokoja	Deputy	Muhammed Dahiru
Osogbo	Lead	Esther Adefunmike Oyarinde
Osogbo	Deputy	Abubakar Alaro
Osogbo	Deputy	Felix Ayoola
Owerri	Lead	Ezeoguine Chuka Dean
Owerri	Deputy	Amadikwa Joy
Owerri	Deputy	Augustine Chukwu
Port Harcourt	Lead	Oshingbesan Adebayo
Port Harcourt	Deputy	Uche Blessed
Port Harcourt	Deputy	James Omailey
Uyo	Lead	James Sandy
Uyo	Deputy	Edidiong Etuk
Uyo	Deputy	Blessing Christopher
Yola	Lead	Munniru Abdulhamid
Yola	Deputy	Aminu Muhammad
Yola	Deputy	Abubakar Sadiq
Zaria	Lead	Nafiu Garba
Zaria	Deputy	Isiaka Bashir







## Organogram



### **Data Science Nigeria Advisory Board Members**





1. Dr Uyi Stewart -Senior Director, Data Science at Seattle Genetics, Member of Wellcome Trust Data Lab Advisory Group.USA

#### 2. Prof. Olayinka David-

West Director and Fellow, Information System, Lagos Business School, Lagos, Nigeria

#### 3. Dr Stephen Odaibo Founder,

CEO, and Chief Software Architect of Retina-Al, Houston, USA

#### 4. Dr. Victor Odumuyiwa

Acting Director, Centre for Information Technology University of Lagos, Lagos, Nigeria

#### 5. Dr Amina Sambo-Magaji,

National Coordinator, Office for ICT Innovation and Entrepreneurship (OIIE), Nigeria **6. Ngozi Dozie Director,** Director OneFi Lagos, Nigeria

7. Dr Jacques Ludik Founder of MIIA (President) & amp; CEO, Cortex Logic Cape Town, South Africa

**8. Dr Elaine Nsoesie,** Boston University, USA

**9. Dr Eric Sodomka,** Facebook, London, United Kingdom

10. Prof Delmiro Fernandez-Reyes, University College London, United Kingdom

Shingai Manjengwa,
 Founder, Fireside Analytics,
 Canada

**12. Frederick Lester** Chief Data Strategist / Analytics Executive Rutgers University Big Data Advisory Board Member & Chief Data Strategist / Analytics Exec., Ulwazi Analytics International, Inc. USA

13. Alexander Tsado-

Nvidia USA and Alliance for Al, USA

**14. Uzo Mkparu** Assistant Vice President/Group Head, CRM, Analytics & Insights First City Monument Bank Limited

#### 15. Prof. Sahalu Junaid

Director Institute of Computing and ICT, Head of Department Computer Science Ahmadu Bello University Zaria, Nigeria.

1 million Artificial Intelligence talents in 10 years





**21.** Disclosure

We are fully committed to transparency in our operations, and we welcome requests for information and feedback on our work. However, there may be instances where we are constrained from disclosing information for security reasons, confidentiality, or because of the sensitive nature of our internal documents. Where it is impossible to disclose any information, we will reveal the reasons for the non-disclosure to the requesting party.







**Consolidated Statement** of Account Unaudited Statement of Account

## **Data Scientist Network Foundation**

Statement of Income and Expenditure (July 2019 - June 2020)

Inflows	FY 2018/19 NGN	FY 2018/19 USD
Grants, Consulting and Project Finances	544,581,738.35	1,512,727.05
Other Income	6,595,000.00	18,319.44
Total Incoming Resources	551,176,738.35	1,531,046.50
Expenditure		
Local Travel-Staff	10,813,462.02	30,037.39
Payroll Expenses	49,738,574.88	138,162.71
Research Expenses	1,563,306.20	4,342.52
General and Administrative Expenses	5,651,576.53	15,698.82
Rent	5,687,566.00	15,798.79
Communication Expenses	1,904,278.00	5,289.66
Bank charges	840,310.45	2,334.20
Professional fees	25,106,143.92	69,739.29
Event Expenses	42,739,637.52	118,721.22
Training and Development	1,042,680.00	2,896.33
Hotel and Accommodation (Non Travel)	7,194,837.00	19,985.66
Logistics and Transportation (Non Travel)	2,144,820.00	5,957.83
Software & Application Development	42,839,602.07	118,998.89
Office Equipment	7,638,500.00	21,218.06
Contract/ Consultancy	11,851,697.93	32,921.38
Total Expenditure	216,756,992.52	602,102.76
Net Incoming Resource	334,419,745.83	928,943.74
Opening Balance (2018/2019)	1 024 007 10	F 244 47
	1,934,697.10	5,344.47
2019/2020 Fund (Currently held)	334,419,745.83	928,943.74
Net Position	336,354,442.93	934,317.90

# **Data Scientist Network Foundation**

List of Donors, Funders and Clients (July 2019 - June 2020)

	Naira	Dollar
Bill and Melinda Gates Foundation	460,564,200	1,279,345
Softcom Limited	20,000,000	55,556
Lagos Business School (BMGF)	16,123,320	44,787
Mr Bayo and Mrs Toyin Adekanmbi	11,290,957	31,364
Microsoft	10,000,000	27,778
Bluechip Technologies Limited	6,000,000	16,667
Terragon Group	5,000,000	13,889
AI Commons	4,313,259	11,981
Xlytics Innovation Limited	3,960,000	11,000
Axa Mansard Nigeria	3,000,000	8,333
Artificial Intelligence for Development	2,880,000	8,000
Al Retina USA	1,000,003	2,778
Mr. Adebayo Aderibigbe	350,000	972
Mr Dele Arikawe	100,000	278
	544,581,738	1,512,727





**23.** Support the Vision

#### **PARTNER WITH US**

Data Science Nigeria (DSN) is continuously looking for strategic partnerships and engagement opportunities to bring us closer to our goals. Here are key reasons to consider partnering with us:

- Our vision and core values are focused leveraging AI/data science for socio-economic development in Nigeria and the wider African context.
- DSN is a deeply rooted local partner in Nigeria and Africa, with an extensive relationship in academia, the private sector and government institutes.
- DSN is the driving force for promoting data science and its convergence with AI in Nigeria and Africa. DSN already has well-established and successful programmes that can be customized to undertake the proposed activities and accomplish the organisation's objectives.









To learn more, or to find out how to support, visit www.datasciencenigeria.org

or send an email to info@datasciencenigeria.org or toyin@datasciencenigeria.ai

### Or Visit our office

AlHub,174b Murtala Muhammed Way, Yaba, Lagos, Nigeria.

### Key Contact:

Toyin Adekanmbi Executive Director (Process and Talent), Data Science Nigeria Toyin@datasciencenigeria.ai

DATA CROWD 0814 001 1100

RESEARCH 0814 001 1100 PAID TRAINING 0814 008 8800 **AI BOOK SALE** 0906 200 0127

**BUSINESS** 0814 008 8800 0814 005 5500 CONSULTING 0814 005 5500 0814 003 3300

**AI+ MEMBERSHIP** 0814 009 9900

**RECRUITMENT AS A SERVICE** 

0906 000 7001

