

# MUSTAPHA ABDULLAHI

London, United Kingdom

✉ [a.j.mustapha@outlook.com](mailto:a.j.mustapha@outlook.com) 🌐 <https://mustious.github.io> 🌐 [mustious](#)

## RESEARCH INTERESTS

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Machine Learning, Reinforcement Learning, and Robotics

## EDUCATION

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### Queen Mary University of London

*MSc Artificial Intelligence [Computer Vision and Robotics]*

Supervisor: **Dr. Bo Zhao**

Sept. 2022 - Sept. 2023 (Expected)

London, U.K.

### Ahmadu Bello University

*Bachelor of Engineering in Computer Engineering - CGPA: 4.90/5.00*

Supervisor: **Dr. Habeeb Bello-Salau**

Oct. 2015 - Nov. 2021

Zaria, Nigeria

### Federal Government College, Kaduna

*West African Secondary School Certificate (W.A.S.S.C.E)*

Sept. 2012 - July 2015

Kaduna, Nigeria

## ADDITIONAL EDUCATION

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Reinforcement Learning Summer School (RLSS), Barcelona, Spain

June - July, 2023

The Cornell, Maryland, Max Planck Pre-doctoral Research School (CMMRS), Germany

Aug., 2023

Mediterranean Machine Learning Summer School (M2LSchool), Thessaloniki, Greece.

Aug. - Sept., 2023

## WORK EXPERIENCE

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### Play4Work

*Chatbot Developer*

Feb. 2021 - Mar. 2022

Canada(Remote)

- Collaborated with a team of 5 to design conversation mappings required to build an interactive chatbot.
- Spearheaded a team of 2 to develop a chatbot with over 700 conversation nodes.
- Reduced 60% of the company's workload of candidate's matching and responses processing.

### Huawei

*Big Data/Cloud Intern*

Jan. 2020 - Feb. 2020

Lagos, Nigeria

- Setup and management of FTP Server, WordPress (Windows & Linux), Windows Share Point Server, etc. on Huawei ECS.
- Performed Relational Database migration using Cloud Data Migration Tool. Utilised Squoop to migrate data between Apache HDFS, Apache HBase, Apache Hive and MySQL database.
- Performed Data Analysis of Smart IoV solution with over 400,000 data points utilizing HiveQL for offline analysis, Apache HBase for real-time query and retrieval and Spark-SQL to migrate the offline analysis service.

## RESEARCH EXPERIENCE

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### Large-Scale Data & Systems (LSDS), Imperial College London

*Student Intern [Master's Thesis]*

June 2023 - Aug. 2023

London, U.K.

- Worked on Distributed Reinforcement Learning systems.

## PUBLICATIONS

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- [1] Mustapha, A.J. 2021. *An Artificial Intelligence of Things (AIOT) based Assistive Smart Glass for the Visually Impaired*. [Poster Presentation]. Department of Computer Engineering, Ahmadu Bello University, Nigeria. [🔗](#)

## AWARDS & ACCOLADES

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- AEGEAN scholarship - Travel Grant to attend M2L School (one of 10 top students) - May 2023
- Best Graduating Engineering Student Award, NSE (Nigerian Society of Engineers) - Dec. 2022
- 2023 Rhodes Scholarship Finalist [West Africa] - Dec. 2022
- Google DeepMind Scholarship Recipient 2022/2023 - Aug. 2022
- QuantumBlack (McKinsey Company)/Office of AI Scholarship Recipient 2022/2023 - Aug. 2022
- i-Scholar Initiative (iSI) Awardee (2022) - May 2022
- Best ICT Competition Instructor, Huawei ICT Competition Sub-Saharan Africa - Apr. 2022
- 1st Place, Depart. of Computer Engr. Final Year Undergraduate Project Exhibition - Oct. 2021
- 3rd Best Engineering Graduate in Nigeria (Awarded by CODET) - Aug. 2021
- NCS (Nigerian Computer Society) Jim Ovia Scholarship Award - Jan. 2021
- Grand Prize Winner, Huawei ICT Competition Global Final - Cloud Track - Nov. 2020
- 1st Place, Huawei ICT Competition Regional Final (Southern Africa) - Cloud Track - Sept. 2020
- 3rd Place, Huawei ICT Competition National Final - Cloud Track - Dec. 2019
- Nigeria Higher Education Foundation Scholar (Class of 2019) - July 2019
- 2nd Runner Up, Professor Ayodele Awojobi Design Competition (PAADC) 3.0 - July 2019
- NNPC/Total National Merit Scholarship Award - July 2018
- China-Nigeria October 1st Scholarship - Feb. 2018
- Federal Government Scholarship Award [Undergraduate Award] - August. 2017
- Agbami Special Medical and Engineering Professionals Scholarship Award - Feb. 2017

## TALKS

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**Data Science Nigeria - Beyond Building Machine Learning Models**  **June 2021**

## PROJECTS

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**Evolving AlexNet CNN Maize Plant Disease Classification** **July 2021 to Oct. 2021**

- We propose a modified Binary Particle Swarm Optimisation (BPSO) algorithm to optimise the structure of the fully connected (FC) layers of CNNs.
- Developed a Tensorflow code implementation of AlexNet model
- Collaborated to derive an optimised model architecture achieving an improved accuracy of 98.3%.

**iGlass** **Apr. 2020 - Oct. 2021**

- A smart assistive device for the visually impaired for reading out text, object detection, scene description, etc. using Raspberry Pi, AWS Rekognition, and Google cloud AI.
- Spearheaded the development of iGlass prototype.

**CompengBot** **Mar. 2021 to Apr. 2021**

- a fast and efficient chatbot to answer queries of students and the general public related to the computer engineering department. Deployment on the departmental website and Telegram.
- Easy and improved access to information about department and school.
- Quick access to details about courses and lecturers contact.

**Transfer Learning for Classification of Cat, Dog and Pandas** **Dec. 2020**

- Used densenet-161 as feature extractor and achieved an accuracy of 97.3%.

## VOLUNTEERING


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**Arewa Data Science Academy** **Feb. 2023 - Present**  
*Mentor* *Nigeria*

**2023 IEEE International Conference on Robotics and Automation (ICRA)** **May, 2023**  
*Volunteer* *London, U.K.*

**Kada Hive Innovation and Tech Hub** **May 2022**  
*Robotics Instructor - Play Tech Kids Programme* *Zaria, Nigeria*

**Data Science Nigeria** **June 2021**  
*Data Science Tutor* *Zaria, Nigeria*

- Assisted participants in setting up data science software and packages.
- Supported the lead tutor in introducing participants to machine learning tools (such as numpy, pandas and scikit-learn).
- Participation Certificate. 

**Ahmadu Bello University** **Feb. 2018 – Apr. 2021**  
*Tutor - Control Engineering (COEN303, COEN407, COEN507)* *Zaria, Nigeria*

**Computer Engineering, Ahmadu Bello University** **Aug. 2019**  
*Instructor - Python Bootcamp for Kids* *Zaria, Nigeria*

## TECHNICAL SKILLS

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**Languages:** Python, Scala, C++, MATLAB, L<sup>A</sup>T<sub>E</sub>X, ROS

**ML Frameworks:** PyTorch, Tensorflow, Keras, Apache-Spark, Scikit-Learn, XGBoost

**Cloud Services:** GCP, AWS, Huawei Cloud Platform

**Operating System:** Linux (Ubuntu, Cent OS 7.\*), Windows

**Big Data Tools:** Hadoop, Apache Spark, Apache Hive, Hbase, MySQL, Huawei MapReduce Service, Gremlin

**Microprocessors:** Raspberry pi (zero, 3), Arduino, ESP32, ESP8266

**Soft Skills:** Leadership, Problem solving, Team Player, Time Management, Interpersonal Skills

## PROFESSIONAL MEMBERSHIPS

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- Black in AI, member
- Black in Robotics, member
- Nigerian Computer Society (NCS), member
- Data Science Nigeria, member
- Nigerian Society of Engineers (NSE), Graduate Member

## HOBBIES

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Watching anime; playing football; talks about AI and the future