

Yusuf Brima

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Education

African Institute for Mathematical Sciences (AIMS), Kigali, Rwanda **Aug. 2020 - present**
Master of Science in Mathematical Sciences

University of Dhaka, Dhaka, Bangladesh **Jul. 2018 - Aug. 2020**
Master of Science in Computer Science and Engineering

University of Makeni, Makeni, Sierra Leone **Sept. 2012 - Feb. 2017**
Bachelor of Science in Computer Science with first class honors (1st in class of 12)

Research Experience

MSc. Thesis **Dec. 2019 - March. 2020**
Deep Transfer Learning for Multi-class Brain MRI Classification.

- In this research we adopted a Deep Residual Convolutional Neural Network (ResNet50) architecture for the experiments amongst other discriminative learning techniques to train the model. Using the novel dataset and two publicly available MRI brain datasets, this proposed approach attained a classification accuracy of 86.40% on the proposed dataset, 93.80% on the Harvard Whole Brain Atlas, and 97.05% accuracy on the School of Biomedical Engineering dataset. Our experimental results significantly demonstrate our proposed framework for Transfer Learning is a potential and effective approach for brain tumor multi-classification tasks. The paper is in submission to the IEEE/ACM Transactions on Computational Biology and Bioinformatics journal

BSc. Final year project **Sept. 2012 - Feb. 2017**
Automated Recruitment System.

- A career placement and recommendation engine written in PHP as the Server-Side Scripting Language; Hyper Text Markup Language 5, JavaScript, JQuery and its ancillary dependencies, Twitter Bootstrap Framework, CSS 3.0, Asynchronous JavaScript and XML, Google Data Visualization Library as the client side scripting technologies and Apache as the Webserver from the Apache Foundation.

Leadership Roles

African Accents International Institute (AAIL) **Feb. 2017 - Present**
Deputy Director of academic affairs

- Operationalised student enrolment, management and transfer procedures, Developed and controlled student record management system, produced a bi-annual report on: Student mobility in and out of the Institution; rate of enrolment, retention, and migration of students, Student-led evaluation of teaching staff including action-oriented recommendations, coordinated class schedules with room assignments for optimum use of buildings and equipment, prepared student transcripts, certificates amongst other academic-related documents.

Destiny College of Management Theology and Technology **2015 - 2017**
Acting Head of Department (Information Technology Department)

- Leadership and Management: responsible and accountable for setting and advancing the academic strategy of the Department in line with the Institution's strategic plans and direction, developed and sustained appropriate structures for management, consultation, decision-making and communication with staff and students, promoted and represented the Institution both internally and externally, Knowledge Transfer: created and exploited new opportunities for knowledge transfer activity in order to secure additional income streams and new areas of teaching and/or research.

University of Makeni Computer Science Society
President

2015 - 2016

- Provided executive leadership into student affairs and activities including: STEM outreach, computer science education communication through radio and television programmes, debates and public lectures and industry tour.

University of Makeni

2014 - 2015

Research Coordinator – Manual on the introduction to the Internet

- Coordinated a report on the Introduction of Internet for University of Makeni undergraduate programmes. This project culminated into a publication and adoption of the report as the University's Internet literacy manual.

University of Makeni Computer Science Society

2014 - 2015

Vice President

- Provided executive leadership into student affairs and activities ranging from representation in seminars, workshops, and conferences to extracurricular activities.

Work Experience

Research Teaching Assistant, University of Makeni

Mar. 2017 - Jul. 2018

- Taught undergraduate Computer Science courses in Principles of Programming Languages, Introduction to Computing, Web Programming, Relational Database Systems theory and practice. Conducted research into emerging technologies and their socio-economic ramifications on the varied dimensions of human civilization. Supervised final year students in their project and thesis development process(es).

Lecturer, Limkokwing University of Creative Technology

Feb. 2018 - Jul. 2018

- Taught undergraduate Computer Science courses in Principles of Programming Languages and Introduction to Computing

College Registrar, African Accents International Institute of Computer Technology
- Jul. 2018

Feb. 2017

- Provided oversight of enrolment, retention and transfer of students in and out of the institution, co-ordinated with the Finance and Exams Officers in managing operations of the Institution, directed and coordinated college registration activities by consulting with other officials to devise registration schedules and procedures, analyzed statistical data on registration for administrative use in formulating policies, directed preparation of statistical reports on educational activities for government and educational agencies and interprets registration policies to faculty and students. Directed compilation of information, such as class schedules and graduation requirements, for publication in school bulletins and catalogues.

Seminars

Seminar on ICT in Higher Education Innovation for African Countries
UNESCO-ICHEI, China

Jun. - Jul. 2018

- Attained knowledge in the role of informatisation of higher education to improve learning outcomes. The seminar entailed hands-on training in Big Data management with Apache Spark and predictive analytics with Machine Learning techniques to improve learning outcomes.

Academic Research on the Web

Jun. 2015 - Jul. 2015

University of Makeni, Sierra Leone

- Attained knowledge on carrying out academic research on the web: search engine usage techniques, finding suitable journals, workshops, conferences for research publication, bibliography management, attribution, blogging amongst other things.

Additional Education

Oxford Machine Learning Summer School, UK

Aug. 2020 - Aug. 2020

- Bayesian ML, Computer Vision, Natural Language Processing, Reinforcement Learning, Causal ML, Topological ML, Transfer Learning

Machine Learning Summer School-INDO, Indonesia**Aug. 2020 - Aug. 2020**

- Machine Learning Fundamentals, TensorFlow, Convolutional Neural Network, Advanced Topics in Equivariance and Inductive Biases, Bayesian Machine Learning, Information Theoretic Objectives and Robust Generalization, Computational Morphology, Reinforcement Learning, Probabilistic Generative Models, VAEs and Flows, Deep Learning for NLP, Graph Neural Nets, Transfer Learning for NLP, Multilingual NLP, Super-resolution and its Application to Computer Vision Tasks

Imperial College London, UK**May. 2020 - June. 2020**

- Linear Algebra, Multivariate Calculus, Principal Component Analysis

MathWorks Training Service, MOOC**Sept. 2019 - Sept. 2019**

- Deep Learning for Image Recognition
- Using Pre-trained Networks, Managing Collections of Data, Performing Transfer Learning

LinkedIn Learning, MOOC**Sept. 2018 - Oct. 2018**

- Introduction to Machine Learning: Supervised, Semi-supervised, Unsupervised and Reinforcement Learning, popular Machine Learning Algorithms (K Nearest Neighbor, Decision Tree, K-mean Clustering, Regression, Naive Bayes).

University of Makeni, Sierra Leone**July. 2017 - July. 2017**

- Understanding HTTP, building static sites with HTML 5, enhancing presentation with CSS 3.0, Adding behavior with JavaScript, server-side programming with PHP, database communication with SQL, server-side communication with AJAX, security best-practices for developers

University of Makeni, Sierra Leone**Oct. 2017 - Oct. 2017**

On-Campus Internship Programme (OCIP),

- Installation and configuration of software, computer networking, troubleshooting and maintenance.

Awards and Honors

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| • African Institute of Mathematical Sciences Masters Scholarship | • Queen Elizabeth Commonwealth Scholarship |
| | • Undergraduate Scholarship National Merit |

Skills and competence

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| • Computing skills, Microsoft Office, Latex, Google Cloud Services | JavaScript, HTML, CSS, SQL, PHP, SPSS. |
| • Programming: Python, R, Vim, C++, C, | • Deep Learning with TensorFlow, PyTorch, FastAI |

Membership

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| • IEEE Member | • The Association of Commonwealth Universities Alumni |
| • University of Dhaka Computer Science and Engineering Society , Bangladesh | • University of Makeni Computer Science Society , Sierra Leone |
| • AIMS community | |