BASHIR MOHAMMED

Cloud Modelling Research Group
School of Electrical Engineering &
Computer Science.
Department of Computing
University of Bradford
BD7 1DP. Bradford. UK

Phone: (+44) 7451375077
Email: b.mohammed1@bradford.ac.uk
           bashirm8000@gmail.com
Homepage: https://bashirmohd.github.io/

RESEARCH INTEREST

My research is focused on automating fault tolerance and failure prediction algorithms in cloud and high-performance computing (HPC) systems, using machine learning, control systems and optimization techniques.

My current research interests focus on developing machine learning solutions for HPC and Cloud systems. I'm interested in developing fast processing real-time machine learning techniques in parallel and distributed networks, particularly in deep learning and Unsupervised feature extraction methods.

EDUCATION

PhD   University of Bradford UK, Computer Science   Dec 2018
Thesis: "A Framework for Efficient Management of Fault Tolerance in Cloud Data Centres
 and High-Performance Computing Systems"
Supervisors: Prof Irfan Awan and Prof Hass Ugail

MSc   University of Sheffield UK, Control Systems Engineering   Feb 2012
Thesis: "Combustor Temperature Measurement in Gas Turbine Engines (GTE) with
Rolls Royce UTC Sheffield UK"
Supervisors: Prof Peter Fleming and Dr Andy Mills

B.Eng. Federal University of Technology, Electrical & Computer Engineering   Nov 2006
Second Class Upper division (2:1)

PROJECTS

Time-series prediction for HPC faults on NERSC

Hadoop deployments

BradStack Building Openstack from ground up

Detecting Attacks on network (Wireshark)

AWARDS

Petroleum Technology Development Fund PhD Scholarship Award   2014
Awarded based on academic excellence and performance.

Petroleum Technology Development Fund MSc Scholarship Award   2010
Awarded based on merit.

MSc Project with Rolls Royce UTC Sheffield UK   2008
Project on Combustor Temperature Measurement in Gas Turbine Engines (GTE) with
Rolls Royce University Technology Centre Sheffield UK.

TOTAL FINA ELF University Undergraduate Merit Scholarship Award   2003
Awarded based on merit academic performance.

Federal Government University Undergraduate Scholarship Award.   2001
Awarded based on merit.

ACADEMIC & INDUSTRIAL EXPERIENCE

Leeds Trinity University, Leeds. UK   Sept 2018 to Present
Lecturer

Responsibilities: Contributing to the academic development, course management, teaching and research development. Teaching and mentoring Second year students. Module leader for the Higher Education Funding Council of England (HEFCE) course on introduction to programming. Teaching the following courses:
- Introduction to Programming, Human Computer Interaction (HCI),
- Introduction to Coding using Python and Java.
- Introduction to JavaScript, Change Management and Version Control using tools such as Visual Studio, Bracket, Code Academy, Code Pen, GitHub, and Glitch.

University of Bradford, UK   Jan 2016 to June 2018
Graduate Research Assistant,

Responsibilities: Teaching, mentoring and advising postgraduate, undergraduate and interns with cloud computing, high-performance computing systems and machine learning related projects. Taught the following courses:

- CM-0228L - Software Engineering with Group Projects (SEGP)- For Second Year Undergraduate Students.
- SD-0112L - Software Development-SD1 (JAVA)-For First Year Undergraduate Students.
- COS5010-B- Computer Communication and Networks (CCN) For Second Year Undergraduate Students.
- CM-1066D- Networks and Protocols for MSc Students in Network and Cyber Security.
- 2016-7 ACYR - Cisco Routing and Switching Labs, Computer Communication and Networks (CCN) For Second Year Undergraduate Students.

- 2017-8 ACYR - Cisco Routing and Switching Labs, Computer Communication and Networks (CCN) For Second Year Undergraduate Students.

Leeds Trinity University, Horsforth Leeds. UK   2016-2018
Role: IT Support Specialist, IT Services Department

The Central Bank of Nigeria. FCT Abuja Nigeria   2012-2014
Role: IT Core Infrastructure Support Engineer, IT Department

APT Securities and Funds Limited   2008 - 2010
Role: Network Support Engineer

PROFESSIONAL TRAINING AND CERTIFICATION

Amazon Web Services Summit Excel London-UK.   2014
AWS Technical Boot camp and Hands-on Lab at Amazon Web Services Summit Excel London-UK.

Microsoft Research Centre Cambridge-UK.   2010
Microsoft Azure for Research Training and Hands-on Lab at Microsoft Research Centre Cambridge-UK.

ITIL Foundation Certificate in IT Service Management   2008
PEOPLECERT GROUP (Official ITIL Accreditor) - ITIL Foundation Certificate in IT Service Management.

Cisco Certified Network Associate (CCNA) – In view   2018
Cisco Certified Network Associate Certification.

University of Bradford, UK   2015 -2016
Associate Fellow of the Higher Education Academy (AFHEA)

Starting to Teach, University of Bradford, UK.

Induction to Teaching, University of Bradford, UK.

Marking, Assessment & Feedback, University of Bradford, UK.

Diversity in the Workplace, University of Bradford, UK.

PUBLICATIONS

Journal Publications

Bashir Mohammed, Mariam Kiran, Kabiru M. Maiyama, Mumtaz M. Kamala, Irfan-Ullah Awan; Failover strategy for fault tolerance in cloud computing environment, Software: Practice and Experience 2017 DOI:10.1002/spe.2491, ISSN:00380644, April 2017.

Bashir Mohammed, Babagana Modu, Kabiru. M. Maiyama, Hassan Ugail, Irfan Awan, Mariam Kiran. Failure Analysis Modelling in an Infrastructure as a Service (Iaas) Environment, ELSEVIER Journal of Electronic Notes in Theoretical Computer Sci, Vol. 340, Pages 41-54, ISSN15710661, Oct 2018.

Bashir Mohammed, Irfan-Ullah, Hassan Ugail, Yoonas Mohammad; Failure Prediction using Machine Learning in a Virtualized HPC System and application. Cluster Computing special issue 2017. (Accepted for publishing by Springer International Publishing AG)

Conference Papers

Bashir Mohammed, Mariam Kiran; Analysis of Cloud TestBeds using OpenSource Solutions, The 3rd International Conference on Future Internet of Things and Cloud (FICLOUD 2015), Rome, Italy, August 2015.

Mariam Kiran, Haroon Mir, **Bashir Mohammed,** Ashraf Al Oun, Kabiru Maiyama; Agent-based Modelling as a Service on Amazon EC2 Opportunities and Challenges, 8th IEEE/ACM International Conference on Utility and Cloud Computing (UCC 2015), Limassol, Cyprus.

Bashir Mohammed, Mariam Kiran, Irfan-Ullah Awan; Optimising Fault Tolerance in Real-Time Cloud Computing IaaS Environment. The 4th International Conference on Future Internet of Things and Cloud (FICLOUD 2016), Vienna, Austria, August 2016.

Bashir Mohammed, Mariam Kiran, Irfan-Ullah Awan; An Integrated Virtualized Strategy for Fault Tolerance in Cloud Computing Environment. The 16th IEEE International Conference on Scalable Communication and Communication (SCALCOM 2016), Toulouse, France, July 2016.

K. M. Maiyama, A. P. Namanya, **B. Mohammed,** M. Kiran, D. D. Kouvatsos and M. A. Kamala; Analytical Performance Evaluation of OpenStack IaaS Cloud Using M/M/1 and M/M/c Queues, 32nd Annual UK Performance Engineering Workshop & Cyber Security Workshop (UKPEW & CyberSecW - 2016).

Bashir Mohammed, Mariam Kiran, Irfan-Ullah Awan, Hussaini Adamu, Hassan Ugail, Ali Bukar Maina; An approach to failure prediction in a cloud-based environment. The 5th International Conference on Future Internet of Things and Cloud (FICLOUD 2017), Prague, Czech Republic, August 2017.

Technical Report

Bashir Mohammed, M Kiran; Experimental Report on Setting up a Cloud Computing Environment at the University of Bradford. Cornell University Library arXiv.org>cs>arXiv: 1412.4582. 2014

Bashir Mohammed, S Moyo, K.M Maiyama, S. Kinteh… Technical Report on Deploying a highly secured OpenStack Cloud Infrastructure using BradStack as a Case Study. arXiv preprint arXiv:1712.09152, 2017

PRESENTATIONS AND TALKS

Workshop, "Failover Strategy for Cloud Fault Tolerance approach", Network Security and Performance Engineering Workshop, 2015 at The University of Bradford (NeTSPen 2015).

Paper Presentation, "Analysis of Cloud TestBeds using OpenSource Solutions", The 3rd International Conference on Future Internet of Things and Cloud (FICLOUD 2015), Rome, Italy, August 2015.

Paper Presentation, "Optimizing Fault Tolerance in Real-Time Cloud Computing IaaS Environment." The 4th International Conference on Future Internet of Things and Cloud (FICLOUD 2016), Vienna, Austria, August 2016.

Paper Presentation, "Experimental Case study using OpenStack," Bradford Cloud research group visit to EPSRC Centre for Doctorial Training (CDT) Newcastle UK. 2015.

Paper Presentation, "Fault Tolerance in Cloud Computing Environment" , MPhil to PhD Progression Presentation, 2016 at The University of Bradford.

PROFESSIONAL AFFILIATIONS

Member, **Association of Computing Machinery (ACM).**

Treasurer, **University of Bradford ACM Student Chapter**

Member, **Institute of Electrical and Electronics Engineers (IEEE).**

Member, **IEEE Computer Society**

Member, **Institute of Engineering and Technology (IET).**

Member, **The British Computer Society (BCS).**

PROFESSIONAL SERVICE

Programme Committee Member - 32nd Annual UK Performance Engineering Workshop & Cyber Security Workshop (UKPEW & CyberSecW) – September 2016

Programme Committee Member - The 4th International Conference on Future Internet of Things and Cloud (FICLOUD 2016), Vienna, Austria, August 2016.

Programme Committee Member - The 5th International Conference on Future Internet of Things and Cloud (FICLOUD 2017), Prague, Czech Republic, August 2017.

Reviewer- IEEE's Transactions on Services Computing 2017

Reviewer - The 5th International Conference on Future Internet of Things and Cloud (FICLOUD2017), Prague, Czech Republic, August 2017.

Session Chair- ICI Symposium. ICI Session 2: Intercloud and IoT 2, FICLOUD August 2017

COMPUTER SKILLS

Programming: Java, Python, C#, R, JavaScript.

Applications: Hadoop, Spark, OpenStack, CloudSim, Microsoft Azure, Amazon Web Services (AWS), Zookeeper, TensorFlow, Scikit Learn, Anaconda, R-Studio, Jupyter, Wireshark, Cisco Packet Tracer

Platforms: Windows, Linux, Unix, Mac OS

REFERENCES

Dr Andy Mills.
Dept. of Automatic Control and Systems Engineering
University of Sheffield
Mapping Street, Sheffield
UK.
a.r.mills@sheffield.ac.uk

Mr. Nilesh Patel.
Leeds Trinity University
Brownberrie lane
Horsforth, Leeds
UK.
n.patel@leedstrinity.ac.uk

Mr. Karim Sadiq.
University of Bradford
School of Electrical Engineering &
Computer Science
Department of Computing
University of Bradford, UK.
A.Sadik@bradford.ac.uk