

PERSONAL PROFILE

A committed and knowledgeable Senior Lecturer educated to Ph.D. level and published with a good track record in theoretical and experimental work, with significant expertise in AI-driven data analytics and communication network optimisation. With over 10 years of experience at a leading Ugandan academic institution, teaching students from various social and cultural backgrounds with a focus on Computing and Information Technology research practice. Possesses a remarkable ability to engage students in the development of their knowledge and deliver effective teaching methods that promote a stimulating learning environment. Adept at identifying student learning requirements and responding appropriately, while remaining committed to developing student practices that enhance the learning experience.

EDUCATION

- 2018 – 2024** **Multimedia University, Cyberjaya Malaysia**
Ph.D. in Information Technology (Specialisation: AI-Driven Traffic Engineering)
Field: Telecommunications Network Management
Thesis: AI-Enhanced Traffic Prediction for Energy-Efficient Traffic Engineering in Hybrid SDNs.
- 2006 – 2008** **Multimedia University, Cyberjaya Malaysia**
MSc. (IT)
Field: Quantum Optical Communication Systems
Thesis: Performance Evaluation of Satellite-Based Quantum Optical Communication Systems.
- 2000 – 2002** **Nkumba University, Uganda**
BSc. (IT)
Thesis: Human Resource Management Information Systems a Case of National Agricultural Research Organisation (NARO) Entebbe, Uganda.
Honors: First Class

CORE SKILLS

- Curriculum Development
- Lecturing/ Tutoring
- Classroom Management
- Student Development
- Statistical Data Analytics and Optimisation

OTHER SKILLS

- Higher Education
- Examination Marking
- Research Seminar/ Workshops

TEACHING EXPERIENCE

- 2025 – To Date** **Senior Lecturer**
Lira University, Faculty of Computing and Information Sciences

Outline

Working within the Department of Computer Science as part of the extensive teaching team, and delivering tuition and research practice in Computing Science and Information Technology to an annual class size of approximately 55 students.

Key Responsibilities

- Teaching a variety of established courses in a variety of settings from small to large lectures
- Use a wide variety of teaching materials and approaches to ensure effective transfer of complex knowledge
- Identify students learning requirements and define appropriate learning objectives
- Device appropriate methods of assessment, while providing constructive feedback
- Coordinating with experts in the field of ICT Research Design and Implementation to enrolled students

Key Achievements

- Developed four masters programmes in Artificial Intelligence and Cybersecurity
- Implemented improved teaching methodologies
- Designed and implemented a change in course curriculum.

2011 – 2018

Lecturer

Nkumba University, School of Business Administration, Department of Computing and Information Technology

Outline

Working within the Department of Computing and Information Technology as part of the extensive teaching team, and delivering tuition and research practice in Computing and Information Technology to an annual class size of approximately 90 students.

Key Responsibilities

- Teaching a variety of established courses in a variety of settings from small to large lectures
- Use a wide variety of teaching materials and approaches to ensure effective transfer of complex knowledge
- Identify students learning requirements and define appropriate learning objectives
- Device appropriate methods of assessment, while providing constructive feedback
- Coordinating with experts in the field of ICT Research Design and Implementation to enrolled students

Key Achievements

- Developed a research based module which resulted in 80% of students achieving up and above 70%
- Implemented improved teaching methodologies which increased the percentages awarded from 15% to 22%
- Designed and implemented a change in course curriculum, resulting in an 20% increase in student enrollment over three years

2004 – 2011

Assistant Lecturer

Nkumba University, School of Business Administration, Department of Computing and Information Technology

Outline

Worked for Nkumba University as part of the extensive teaching team, leading fundamental courses in the field of Computing and Information Technology.

Key Responsibilities

- Prepared and taught a variety of preliminary courses with the established programs

RESEARCH EXPERIENCE

2023

Consultant

Multimedia University

Project: Resource Allocation Techniques Toward Next-Generation Fixed-Mobile Convergence for Rural Connectivity

Provided assistance to the project leader by undertaking the agreed tasks

2018 – 2019

Research Scholar

Multimedia University

Project: Flexible Software Defined Networking

Provided assistance by undertaking the agreed tasks

SUPERVISION OF MASTERS RESEARCH STUDENTS

- **Mr. Nkwanga Joachim Charles** *Thesis Title: A Conceptual Model for Assessing the Factors that Influence E-Procurement Adoption Success in the Public Sector in Uganda: A Case Study of National Forestry Authority (NFA) (2017)*
- **Ms. Namwano Sylvia** *Thesis Title: A Theoretical Architectural Framework for Cloud-Based E-Learning at Higher Learning Institutions in Developing Countries: A Case Study in Uganda (2016)*
- **Mr. Kimbowa Sande Jeff** *Thesis Title: An Investigation of User perceptions of Campus Wide Wireless Network Infrastructure: A Case Study of Nkumba University (2015)*

RESEARCH INTERESTS

- Probabilistic Machine Learning and Reasoning
- Advances in Bayesian Deep Learning
- Bayesian Statistical Inference/ Discovery
- Uncertainty Quantification
- Bio-Inspired Optimisation Algorithms
- Federated and Collaborative Learning
- Reinforcement Learning and Sequential Decision-Making
- Trustworthy, Robust, Safe, Interpretable and Explainable Artificial Intelligence
- Cybersecurity Threat Detection and Defenses

PUBLICATIONS

JOURNAL ARTICLES

- R. Etengu, F. M. Abbou, H. Y. Wong, A. Abid, N. Nortiza and A. Setharaman, "Performance Comparison of BB84 and B92 Satellite-based Free Space Quantum Optical Communication Systems in the Presence of Channel Effects." *Journal of optical communications* 32, no. 1, 37-47, 2011.
- R. Etengu, S. C. Tan, C. K. Lee, F. M. Abbou and T. C. Chuah, "AI-Assisted Framework for Green-Routing and Load Balancing in Hybrid Software-Defined Networking: Proposal, Challenges and Future Perspective," in *IEEE Access*, vol. 8, pp. 166384-166441, 2020.
- Banyal, W. H., Hamed, A., Ahmad, J., Nisar, K., Haque, M. R., Ibrahim, A. A. A., Rodrigues, J. J. P., Khan, M. A., Rawat, D. B., and Etengu, R. (2022), "New Modified Controlled BAT Algorithm for Numerical Optimisation Problem," *CMC-Computers, Materials & Continua*, 2021, DOI: 10.32604/cmc.2021.017789.
- Haque, M. R., Tan, S. C., Yusoff Z., Nisar, K., Kaspin, R., Haider, I., Nisar, S., Rodrigues, J. P. C., Chowdhry, B. S., Uqaili, M. A., Majumder, S. P., Rawat, D. B., Etengu, R., and Buyya, R. (2022). "Unprecedented Smart Algorithm for Uninterrupted SDN Services During DDoS Attack," *CMC-Computers, Materials & Continua*, 70(1), 879-894.
- Pervaiz, Sobia and Haider Bangyal, Waqas and Ashraf, Adnan and Nisar, Kashif and Haque, Muhammad Reazul and Ag. Ibrahim, Ag. Asri and Chowdhry, B. S. and Rasheed, Waqas and Rodrigues, Joel J. P. C. and Etengu, Richard and Rawat, Danda B. (2022), "Comparative Research Directions of Population Initialization Techniques

using PSO Algorithm,” *Intelligent Automation & Soft Computing*, 32 (3). pp. 1427-1444. ISSN 1079-8587, 2326-005X.

- R. Etengu, S. C. Tan, T. C. Chuah, Y. L. Lee and Jaime Galán-Jiménez, “AI-Assisted Traffic Matrix Prediction Using GA-Enabled Deep Ensemble Learning for Hybrid SDN,” *Computer Communications*, Volume 203, Pages 298-311, 2023.
- R. Etengu, S. C. Tan, T. C. Chuah, Jaime Galán-Jiménez and Y. L. Lee, “A Machine Learning GA-Based Method for Energy-Aware Routing Optimization in Hybrid SDN/OSPF Backbone Networks Using Adaptive Link Rates,” in *IEEE Access*, under review.

CONFERENCE PAPERS

- R. Etengu, S. C. Tan, F. M. Abbou, C. K. Lee, Z. Yussof and M. Shahbe, “Traffic Scheduling in Hybrid Software Defined Networking: Energy-Aware Load Balancing Perspective” *26th IEEE Conference of Open Innovations Association FRUCT Yaroslavl, Russia*, 20-24 April 2020.
- R. Etengu, S. C. Tan, T. C. Chuah and J. Galán-Jiménez, "Deep Learning-Assisted Traffic Prediction in Hybrid SDN/OSPF Backbone Networks," *NOMS 2022-2022 IEEE/IFIP Network Operations and Management Symposium*, pp. 1-6, 2022.

REFEREES

Prof. Dr. T.C Chuah
Faculty of Engineering
Multimedia University
63100, Cyberjaya, Selangor, Malaysia
Mobile: +60133975525
Email: tcchuah@mmu.edu.my

Dr. Abdulfatah A. G Abushagur
Faculty of Engineering
Multimedia University
63100, Cyberjaya, Selangor, Malaysia
Mobile: +601-293306781
Email: a.abushagur@gmail.com

Prof. Dr. F.M Abbou
School of Science & Engineering
P.O Box 1757
Ifrane 53000, Morocco
Mobile: +212535862107
Email: F.Abbou@aui.ma

Dr. Roman Bhuiyan
Faculty of Computer Science & Informatics
Berlin School of Business and Innovation (BSBI)
Berlin, Germany.
Mobile: +49 17687301348.
Email: romanbhuiyanpv@gmail.com

DECLARATION

I sign and acknowledge to the best of my knowledge and believe that the information given above describes me, my qualifications and achievements.

For God and My Country.

Signed: 
(ETENGU RICHARD)

Date: 10 April 2026

THE END