CURRICULUM VITAE

PERSONAL DETAILS

a) *Official Name:*   *Prof. Geoffrey Muchiri Muketha*

b) *Mailing Address: Murang'a University of Technology,*
                P.O. Box 75 – 10200, Murang'a

c) *Email Address:*   *gmuchiri@mut.ac.ke*

d) *Mobile Phone:*   *0713108597*

e) *Profiles:*

- *Google Scholar Profile*
- *Research Gate Profile*
- *ORCID Profile*
- *LiveDNA Profile*

EDUCATION

a) *Ph.D. in Software Engineering, Universiti Putra Malaysia, 2011*

b) *M.Sc. in Computer Science, Periyar University, 2004*

c) *B.Sc. in Information Sciences, Moi University, 1995*

e) *Kenya Certificate of Secondary Education, 1989.*

WORK EXPERIENCE

a) Murang'a University of Technology, Aug.2015-Present
- *Designation:*
    - *Professor of Computer Science, 17th Jun. 2021 - Present*
    - *Associate Professor of Computer Science, 4th Aug. 2015 – 16th Jun. 2021*
- *Management Appointments:*
    - *Director, Postgraduate Studies, 22nd Apr. 2021 – Present.*
    - *Dean, School of Computing and Information Technology, Nov.2015 – Oct.2020.*
    - *Co-opted Member of University Management Board, 6th Jun. 2017 – 6th June 2019.*
    - *Acting Deputy Vice Chancellor – Academics, Research, Innovation and Extension (ARIE), 6th Dec.2016 – 6th June 2017.*
- *Other Appointments:*
    - *Chairman – Research, Innovation & Consultancy Board, 18th March 2021 – Present*
    - *Chairman – ERP Implementation Committee, 10th October 2017*

b) Meru University of Science and Technology, Jan.2013-Jul.2015
- *Designation:*
    - *Senior Lecturer, Computer Science, Jan.2013-Jul.2015.*
- *Management Appointment:*
    - *Dean, School of Information Technology and Engineering, Nov.2013- Jul.2015.*

c) *Masinde Muliro University of Science and Technology, Jun.2005-Dec.2012*
- *Designation*:
  - *Lecturer, Feb.-Dec.2012*
  - *Assistant Lecturer, Jun.2005-Jan.2012.*
- *Management Appointment*:
  - *Chairman, Computer Science Department, Sept.-Dec.2012*
  - *Acting ICT Director, Aug.-Sept.2012.*
  - *Faculty Representative to Senate, July 18, 2012.*

d) *Africa Nazarene University, Jun.2004-May 2005*
- *Designation: Lecturer,*

e) *Maharishi University of Management-Kenya, May 2000-May 2004*
- *Designation: Assistant Lecturer.*

f) *Parklands Arya Girls High School, Jan.-Apr. 2000*
- *Designation: Computer Studies Teacher.*

g) *Computer One College, Nanyuki, 1999*
- *Designation: Computer Studies Teacher.*

h) *Kenya Litho Ltd., Nairobi, 1996-1998*
- *Designation: Graphics Design and Desktop Publishing Supervisor.*

SELF-IMPROVEMENT COURSES ATTENDED

a) *Leadership & Corporate Governance Training, Murang'a University of Technology, 30th Oct. – 1st Nov.2019.*

b) *ISO 9001: 2015 Implementers Training Course, Murang'a University of Technology, 15th – 17th May 2017.*

c) *IBM Certificate in Java Programming, IBM Global Services, Salem, India, 21st Feb. 2003.*

d) *Feature Writing Course, United States International University (USIU)-Africa, 28th June 1996.*

AWARDS AND RECOGNITIONS

a) *Researcher of the Year 2019, Murang'a University of Technology.*

b) *Second-Best Researcher of the Year 2014, Meru University of Science and Technology.*

CONSULTANCY

a) *Facilitator – Nyeri National Polytechnic Research Workshop, 26th June 2019*
- *Topic: Proposal writing, research paper writing, and conference presentation*
- *Audience: Nyeri National Polytechnic teaching staff*
- *Venue: Nyeri National Polytechnic, Nyeri, Kenya.*

b) *Facilitator – Nairobi Technical Training Institute Research Workshop, 23rd June 2018*
- *Topic: Proposal writing, research paper writing, and presentation*
- *Audience: Nairobi Technical Training Institute HODs*
- *Venue: Midland Hotel, Nakuru, Kenya.*

c) *Facilitator – Nkabune Technical Training Institute Research Workshop, 16th January 2018*
- *Topic: How to write and present research papers*
- *Audience: Nkabune Technical Training Institute teaching staff*
- *Venue: Nkabune Technical Training Institute, Meru, Kenya.*

d) External Examiner Services
- *Department of Computer Science, Karatina University, August.2020-Present*
- *Department of Information Technology, Moi University, 2021-Present.*

COMMUNITY SERVICES

a) Chairman, Board of Managers, Laciathuriu Mixed Secondary School, Meru, May 2019- Present.

b) Member of Board of Managers, Miathene Boys High School, Meru, Sept.2015- May.2022.

c) Involvement in Church Ministry, Evangelism and teaching, 1990-Present.

RESEARCH

a) Research Purpose
- *To contribute to the fields of computer science and software engineering by developing new models, techniques, methods and tools that can be used to improve software quality.*

b) Research Areas
- *Software Engineering, software metrics, programming languages, computer security, and intelligent agents.*

c) Funded Research Projects (ongoing)

- *Competence Network for E-Inclusion and Assistive Technologies (CNEAT)*

  This project introduces computer-based assistive technologies (ATs) such as eye and head tracking devices that are used to help children with non-functional arms to use computers. It has been funded by the National Research Fund (NRF), Kenya, since 2017. Role: Collaborator.

- *Participatory Sensing in Kenya: Preconditions for Successful Implementation*

  This project involves users of GPS-enabled mobile devices collecting useful data of real- time happenings and then uploading the same to be used by other consumers. It has been funded by the NRF, Kenya, since 2017. Role: Collaborator.

d) Completed Projects

- *Real Time Surveillance of Crop Pests and Diseases Using Deep Learning Techniques*

  This project involved training of a neural network to monitor crop pests and diseases in Kenya. It was funded by the Kenya Education Network (Kenet) between 2018 and 2019. Role: Principal Investigator.

- *Analytical & Imaging Laboratory Infrastructure Project for Murang'a University of Technology*

  This project is concerned with building an analytical and imaging laboratory and is placed under the infrastructure category. It was funded by the NRF, Kenya in 2017. Role: Collaborator.

e) Publications (Journal Articles)

1. *Ann Wambui King'ori, Geoffrey Muchiri Muketha and John Gichuki Ndia, December 2024. A Framework for Analyzing UML Behavioral Metrics based on Complexity Perspectives. International Journal of Software Engineering (IJSE), 11(1), Pp. 1-12. ISSN: 2180-1320.*

2. *Fortine Mwihaki Mata, Geoffrey Muchiri Muketha and Gabriel Ndung'u Kamau, December 2024. Trust Attributes in Multi-Path Congestion Avoidance Techniques to Curb Wormhole Attacks in Wireless Sensor Networks. Journal of Computer Networks (JCN), 12(1), Pp. 1-6.*

ISSN: 2372-4757.

3. *Kevin Agina Onyango, Geoffrey Muchiri Muketha and John Gichuki Ndia, July 2024. Structural Complexity Metrics for Laravel Software. International Journal of Software Engineering & Applications (IJSEA), 15(4), Pp. 41-59. ISSN: 0976-2221.*

4. *Ann Wambui King'ori, Geoffrey Muchiri Muketha and John Gichuki Ndia, March 2024. A Suite of Metrics for UML Behavioral Diagrams based on Complexity Perspectives. International Journal of Software Engineering & Applications (IJSEA), 15(2), Pp. 1-21. ISSN: 0976-2221.*

5. *Amos Chege Kirongo, Daniel Maitethia, Eric Mworia and Geoffrey Muchiri Muketha, January 2024. Application of Real-Time Deep Learning in integrated Surveillance of Maize and Tomato Pests and Bacterial Diseases. Journal of the Kenya National Commission for UNESCO (J-KNCU), 4(1), Pp. 1-13. ISSN: 2958-7999.*

6. *Kevin Agina Onyango, Jackson Kamiri and Geoffrey Muchiri Muketha, October 2023. A comparative study of the lexicographical complexity of Java, Python and C languages based on program characteristics. Journal of Innovation, Technology and Sustainability, 1(1), Pp. 42-67.*

7. *Daniel Khaoya Muyobo, Geoffrey Muchiri Muketha and Alice Nambiro Wechuli, August 2023. Multi-Agent Systems Requirements Analysis for Patient-centered Healthcare Consultancy Service. International Journal of Advanced Research in Computer Science (IJARCS), 14(5), Pp. 1-12. E-ISSN: 0976-5697.*

8. *Daniel Khaoya Muyobo, Geoffrey Muchiri Muketha and Alice Nambiro Wechuli, August 2023. Revolutionizing Kenyan Healthcare Consultancy: Exploring IoT Innovations and other Enabling Technologies – A Case Study. International Journal of Advanced Research in Computer and Communication Engineering (IJARCCE), 12(8): ISSN (O) 2278-1021, ISSN (P): 2319-5940.*

9. *Peter Maina Mwangi, John Gichuki Ndia and Geoffrey Muchiri Muketha, May 2023. An Extended K-Means Cluster Head Selection Algorithm for Efficient Energy Consumption in Wireless Sensor Networks. International Journal of Network Security & Its Applications (IJNSA), 15(3): ISSN: 0974-9330.*

10. *Jane Kinanu Kiruki, Geoffrey Muchiri Muketha and Gabriel Kamau, May 2023. A Novel Alert Correlation Technique for Filtering Network Attacks. International Journal of Network Security & Its Applications (IJNSA), 15(3): ISSN: 0974-9330.*

11. *Stephen Kahara Wanjau, Geoffrey Mariga Wambugu, Aaron Mogeni Oirere and Geoffrey Muchiri Muketha. Discriminative Spatial-Temporal Feature Learning for Modeling Network Intrusion Detection Systems. Journal of Computer Security. Journal of Computer Security (Accepted on 3rd February 2023), Pre-press, pp. 1-30. ISSN 1875-8924 (E). DOI: 10.3233/JCS-220031.*

12. *Jane Kinanu Kiruki, Geoffrey Muchiri Muketha and Gabriel Kamau, January 2023. Metrics for Evaluating Alerts in Intrusion Detection Systems. International Journal of Network Security & Its Applications (IJNSA), 15(1): ISSN: 0974-9330.*

13. *Nevy Kimani Maina, Geoffrey Muchiri Muketha and Geoffrey Mariga Wambugu, January 2023. A New Complexity Metric for UML Sequence Diagrams. International Journal of Software Engineering & Applications (IJSEA), 14(1): ISSN: 0976-2221.*

14. *Jane Wanjiru Njuki, Geoffrey Muchiri Muketha and John Gichuki Ndia, September 2022. An Extended Security Measurement Framework for Open-Source Enterprise ResourcePlanning Software Security. International Journal of Network Security & Its Applications (IJNSA), 14(5): ISSN: 0974-9330.*

15. *Amos Chege Kirongo, Dorothy G. Bundi, Dismas T. Kitaria, Guyo S. Huka, Geoffrey Muchiri Muketha, September 2022. Implementation of AI-based Assistive Technologies for Learners with Physical Disabilities in Kenya: a Practical Design Thinking Approach. African Journal of Science, Technology and Social Sciences. Proceedings of the Inaugural Meru University*

of Science and Technology International Conference (MUSTIC 2022), 1(1): 42.

16. *Peter Maina Mwangi, John Gichuki Ndia and Geoffrey Muchiri Muketha, June 2022. <u>Cluster Head Selection Algorithms for Enhanced Energy Efficiency in Wireless Sensor Networks: A Systematic Literature Review</u>. International Journal of Computer Science and Engineering Survey (IJCSES), 13(3): ISSN: 0976-3252.*

17. *Ann Wambui King'ori, Geoffrey Muchiri Muketha and Elyjoy Muthoni Micheni, May 2022. <u>Complexity Metrics for Statechart Diagrams.</u> International Journal of Software Engineering & Applications (IJSEA), 13(3): ISSN: 0976-2221.*

18. *Jane Wanjiru Njuki, Geoffrey Muchiri Muketha and John Gichuki Ndia, May 2022. <u>A Systematic Literature Review on Security Indicators for Open-Source Enterprise Resource Planning Software.</u> International Journal of Software Engineering & Applications (IJSEA), 13(3): ISSN: 0976-2221.*

19. *Geoffrey Muchiri Muketha, Abdul Azim Abdul Ghani, and Rodziah Atan, November 2020. <u>Validating Structural Metrics for BPEL Process Models</u>. Journal of Web Engineering. Vol. 19(5–6), Pp.707–724. ISSN: 1544-5976.*

20. *Samson Wanjala Munialo Geoffrey Muchiri Muketha, and Kelvin Kabeti Omieno, October 2020. <u>An Effort Estimation Method for Service-Oriented Architecture.</u> Journal of Engineering Science and Technology Review. 13 (6). Pp. 187-196. ISSN: 1791-2377.*

21. *James Maina Mburu, Geoffrey Muchiri Muketha, and Aaron Mogeni Oirere, 2020. <u>An Enhanced Multiview Test Case Generation Technique for Object-oriented Software using Class and Activity Diagrams</u>. International Journal of Recent Technology and Engineering (IJRTE). 9(4). Pp.186-195. ISSN: 2277-3878.*

22. *Kenneth Gitonga Ntonja, Geoffrey Muchiri Muketha, and Gabriel Kamau Ndung'u, 2020. <u>Cloud Data Privacy Preserving Model for Healthcare Management Systems based on Multi Factor Authentication.</u> International Journal of Recent Technology and Engineering (IJRTE). 9(3). Pp.360-367. ISSN: 2277-3878.*

23. *Kevin Agina Onyango, Geoffrey Muchiri Muketha, and Elyjoy Muthoni Micheni, August 2020. <u>A Metrics-Based Fuzzy Logic Model for Predicting the Reusability of Object-Oriented Software</u>. International Journal of Engineering and Advanced Technology (IJEAT). 9(6). Pp.536-546. ISSN: 2249-8958.*

24. *Ephantus Gichuki Mwangi, Geoffrey Muchiri Muketha and Gabriel Kamau Ndung'u, May 2020. <u>Design and Implementation of Resilient Cooperative Bait Detection Technique to Curb Cooperative Black Hole Attacks in MANETs Using DSR Protocol</u>. International Journal of Networks and Communications. 10(1). Pp.1-9. E-ISSN: 2168- 4944.*

25. *Ephantus Gichuki Mwangi, Geoffrey Muchiri Muketha and Gabriel Kamau Ndung'u, May 2020. <u>Optimized Trust-Based DSR Protocol to Curb Cooperative Blackhole Attacks in MANETs Using NS-3</u>. International Journal of Networks and Communications. 10(1). Pp.10-19. E-ISSN: 2168-4944.*

26. *Ephantus Gichuki Mwangi, Geoffrey Muchiri Muketha, and Gabriel Ndung'u Kamau, 2020. <u>Trust-Based Security Technique to Curb Cooperative Blackhole Attacks in Mobile Ad Hoc Networks using OTB-DSR Protocol in NS-3</u>. Global Journal of Computer Science and Technology: E-Network, Web & Security. 20 (3). Pp.39-54. Online ISSN: 0975-4172; ISSN Print: 0975-4350.*

27. *Dorothy M. Kalui, Dezheng Zhang, Geoffrey Muchiri Muketha and Jared Onsomu, January 2020. <u>Simulation of Trust-Based Mechanism for Enhancing User Confidence in Mobile Crowd-Sensing Systems</u>. IEEE Access. 8(2020): ISSN: 2169-3536.*

28. *John Gichuki Ndia, Geoffrey Muchiri Muketha, and Kelvin Kabeti Omieno, January 2020. <u>Structural Complexity Attribute Classification Framework (SCACF) for Sassy Cascading Style Sheets</u>. International Journal of Software Engineering & Applications (IJSEA), 11(1): ISSN: 0976-2221.*

29. *John Gichuki Ndia, Geoffrey Muchiri Muketha and Kelvin Kabeti Omieno, December 2019.*

Complexity Metrics for Sassy Cascading Style Sheets. Baltic Journal of Modern Computing, 7(4): ISSN 2255-8950.

30. *Elyjoy Muthoni Micheni and Geoffrey Muchiri Muketha, October 2019.* <u>*Analysis of the Problem Internet Use (PIU) among Adolescents in Kenyan Schools.*</u> *Journal of Information Engineering and Applications, 9(6): ISSN: 2225-0506.*

31. *Ann Wambui King'ori, Geoffrey Muchiri Muketha and Elyjoy Muthoni Micheni, July 2019.* <u>*A Survey of Cognitive Complexity Metrics for Statechart Diagrams.*</u> *International Journal of Software Engineering & Applications (IJSEA), 10(4): ISSN: 0976-2221.*

32. *Amos Chege Kirongo, Guyo Sarr Huka, Dorothy Gatwiri Bundi and Geoffrey Muchiri Muketha, 2019.* <u>*Competence Network for e-Inclusion and Assistive Technologies.*</u> *IOSR Journal of Humanities and Social Science (IOSR-JHSS), 24(6). ISSN: 2279-0845.*

33. *Faith Mueni Musyoka, Moses Mwangi Thiga and Geoffrey Muchiri Muketha, 2019.* <u>*A 24-hour ambulatory blood pressure monitoring system for preeclampsia management in antenatal care.*</u> *Informatics in Medicine Unlocked, 16 (2019): 1-7. ISSN: 2352-9148.*

34. *Faith Mueni Musyoka, Moses Mwangi Thiga, Geoffrey Muchiri Muketha, 2019.* <u>*An assessment of suitable and affordable smart armband for preeclampsia Management in Antenatal Care.*</u> *International Journal of Information Technology (IJOIT), 3(7): ISSN: 2413-2950.*

35. *John Gichuki Ndia, Geoffrey Muchiri Muketha, and Kelvin Kabeti Omieno, May 2019.* <u>*A Survey of Cascading Style Sheets Complexity Metrics.*</u> *International Journal of Software Engineering & Applications (IJSEA), 10(3): ISSN: 0976-2221.*

36. *Samson Wanjala Munialo Geoffrey Muchiri Muketha, and Kelvin Kabeti Omieno, March 2019.* <u>*Size Metrics for Service Oriented Architecture.*</u> *International Journal of Software Engineering & Applications (IJSEA), 10(2): ISSN: 0976-2221.*

37. *Kennedy O. Ondimu, Geoffrey Muchiri Muketha, Ismail A. Lukandu, Kelvin K. Omieno, 2018.* <u>*A Situational Method for Healthcare Business Process Improvement.*</u> *International Journal of Research in Engineering and Technology (IJRET), 7(10): 74-87. ISSN: 2321-7308.*

38. *Kennedy O. Ondimu, Kelvin K. Omieno, Geoffrey Muchiri Muketha and Ismail A. Lukandu, 2018.* <u>*Tackling Data Related Challenges in Healthcare Process Mining using Visual Analytics.*</u> *International Journal of Computing and Technology, 5(10): 125-132. ISSN: 3221-7308.*

39. *Stephen Kahara Wanjau and Geoffrey Muchiri Muketha, March 2018.* <u>*Improving Student Enrollment Prediction Using Ensemble Classifiers.*</u> *International Journal of Computer Applications Technology and Research, 7(3): 122-128. ISSN: 2319-8656.*

40. *Nelson Bogomba Masese, Geoffrey Muchiri Muketha and Samuel Mbugua, October 2017.* <u>*Interface Features, Program Complexity and Memorability as Indicators of Learnability of Mobile Social Software.*</u> *International Journal of Science and Research (IJSR), 6(10): 1527-1533. ISSN: 2319-7064.*

41. *Dorothy M. Kalui, Christopher A. Moturi, Geoffrey Muchiri Muketha and John K. Tarus, April 2017.* <u>*An Investigation into Customers' Requirements for Electronic Banking: A Case Study of Microfinance Institutions (MFIs) in Kenya.*</u> *International Journal of Innovation in the Digital Economy (IJIDE), 8(2): 39-54. ISSN: 1947-8305.*

42. *Stella Nafula Khaemba, Geoffrey Muchiri Muketha and Nahason Matoke, 2017.* <u>*Factors Affecting Citizen Readiness for E-Government Systems in Kenya.*</u> *Journal of Research in Engineering and Applied Sciences, 2(2): 59-67. ISSN: 2456-6403.*

43. *Kevin Mwiti Njeru, Geoffrey Muchiri Muketha, and John Wachira Kamau, 2017.* <u>*A Government Driven Approach Towards Green IT Economies.*</u> *African Journal of Computing and Information Systems (IJSTER-AJCIS), 1(1): 1-1. ISSN: 2519-5875.*

44. *Nelson Bogomba Masese, Samuel Mbugua and Geoffrey Muchiri Muketha, October 2016.* <u>*A Review of Mobile Social Software Awareness and Utilization.*</u> *International Journal of*

Science and Research (IJSR), 5(10): 376-381. ISSN: 2319-7064.

45. *Samson Wanjala Munialo and Geoffrey Muchiri Muketha, September 2016. <u>A Review of Agile Software Effort Estimation Methods</u>. International Journal of Computer Applications Technology and Research, 5(9): 612-618, ISSN: 2319-8656.*

46. *Lilian Cherotich Ronoh, Geoffrey Muchiri Muketha and Franklin Wabwoba, March 2015. <u>Factors Affecting Requirements Elicitation for Heterogeneous Users of Information Systems</u>. International Journal of Computer Science Engineering and Technology (IJCSET), 5(3): 35-39. ISSN: 2231-0711.*

47. *Njeru Mwiti Kevin, Geoffrey Muchiri Muketha, John W. Kamau, Gregory W. Wanyembi and Waithaka Stephen Titus, December 2014. <u>An Investigation into the Applicability of Green IT Concepts into Green IS</u>. International Journal of Application or Innovation in Engineering & Management (IJAIEM), 3(12): 198-204. ISSN 2319-4847.*

48. *Elyjoy Muthoni Micheni, Geoffrey Muchiri Muketha and Leonard Wamocho, June 2014. <u>An Interoperability Framework for Mobile Money Transfer Systems in Kenya</u>. International Journal of Emerging Sciences, 4(2): 88-102. ISSN: 2222-4254.*

49. *Alice Nambiro Wechuli, Geoffrey Muchiri Muketha and Nahason Matoke, September 2014. <u>Cyber Security Assessment Framework: Case of Government Ministries in Kenya</u>. International Journal of Technology in Computer Science and Engineering, 1(3): 100-113. ISSN 2349-1582.*

50. *Faith Mueni Musyoka, Geoffrey Muchiri Muketha and Anselemo Peters Ikoha, September 2014. <u>An assessment framework for Internet banking system reliability</u>. International Journal of Technology in Computer Science and Engineering, 1(3): 88-100. ISSN 2349-1582.*

51. *Alice Nambiro Wechuli, Geoffrey Muchiri Muketha and Nahason Matoke, June 2014. <u>Survey of Cyber Security Frameworks</u>. International Journal of Technology in Computer Science and Engineering, 1(2): 33- 39. ISSN 2349-1582.*

52. *Sarah Wanja Njoroge, Samuel Mungai Mbuguah and Geoffrey Muchiri Muketha, June 2014. <u>Determination of Information Systems Service Quality Attributes in Banking Industry</u>. International Journal of Technology in Computer Science and Engineering, 1(2): 40-51. ISSN 2349-1582.*

53. *Erick K. Rotich, Shadrack K. Metto, Lily Siele and Geoffrey Muchiri Muketha, 2014. <u>A Survey of Cyber Crime Perpetration and Prevention: A Review and Model for CyberCrime Prevention</u>. European Journal of Science and Engineering, 2(1): 12-28.*

54. *Samuel Mungai Mbuguah, Geoffrey Muchiri Muketha and Franklin Wabwoba, April 2014. <u>A Review of Algorithms for Determination of Attackability Metrics</u>. Journal of Emerging Trends in Computing and Information Sciences, 5(4): 292-296, ISSN: 2079-8407.*

55. *Teh Phoey Lee, Geoffrey Muchiri Muketha and Gu Yin Xin, 2014. <u>Mobile-Assisted Instructional for Domestic Maid (Maid-M)</u>. Journal of Theoretical and Applied Information Technology, 6(2): 428-436. ISSN: 1992-8645.*

56. *Elyjoy Micheni, Geoffrey Muchiri Muketha and Leonard Wamocho, 2014. <u>A Review of Agent Based Interoperability Frameworks and Interoperability Assessment Models</u>. Scholars Journal of Engineering and Technology, 2(2): 291-300. ISSN: 2347-9523.*

57. *Elyjoy M. Micheni, Isaiah Lule and Geoffrey Muchiri Muketha, October 2013. <u>Transaction Costs and Facilitating Conditions as Indicators of the Adoption of Mobile Money Services in Kenya</u>. International Journal of Advanced Trends in Computer Science and Engineering (Special Issue of ICACET2013), 2(5): 9-15, ISSN: 2278-3091.*

58. *Samuel Mungai Mbuguah, Waweru Mwangi, Pang Chol Song and Geoffrey Muchiri Muketha, June 2013. <u>Social Attackability Metrics for Software Systems</u>. International Journal of Information and Communication Technology Research, 3(6): 211-221. ISSN: 2223-4985.*

59. *Aldrin W. Wanambisi, Cleophas Maende, Geoffrey Muchiri Muketha, Shem Aywa, 2013. <u>A Probabilistic Data Encryption Scheme (PDES)</u>. Journal of Natural Sciences Research, 3(1): 21-26. ISSN: 2225-0921.*

60. *Aldrin W. Wanambisi, Cleophas Maende, Geoffrey Muchiri Muketha, Shem Aywa, 2013. <u>Advances in Composite Integer Factorization</u>. Mathematical Theory and Modeling, 3(2): 86-90. ISSN: 2224-5804.*

61. *Aldrin W. Wanambisi, Cleophas Maende, Geoffrey Muchiri Muketha, Shem Aywa, March 2013. <u>Algebraic Approach to Composite Integer Factorization</u>. International Journal of Mathematics and Statistics Studies, 1(1): 16-20. ISSN: 2224-5804.*

62. *Collins O. Ondago, Kennedy O. Ondimu, and Geoffrey Muchiri Muketha, 2012. <u>A Framework for E-Learning Implementation in Developing Countries: A Students' Perspective</u>. International Journal of Emerging Sciences, 2(4): 579-597. ISSN: 2222-4254.*

63. *Kennedy O. Ondimu, Geoffrey Muchiri Muketha, 2012. <u>Challenges in Achieving Interoperability in Distributed Systems: A Survey of Literature</u>. International Journal of Emerging Sciences, 2(4): 619-631. ISSN: 2222- 4254.*

64. *Samuel Mungai Mbuguah, Waweru Mwangi, Pang Chol Song and Geoffrey Muchiri Muketha, 2012. <u>A Conceptual Model for a Holistic Predictive Attackability Metric for Secure Service Oriented Architecture Software</u>. International Journal of Information and Communication Technology Research, 2(7): 579-587. ISSN: 2223-4985.*

65. *Geoffrey Muchiri Muketha, Abdul Azim Abdul Ghani, Mohd. Hasan Selamat and Rodziah Atan, 2010. A Survey of Business Process<u> Complexity Metrics</u>. Information Technology Journal, 9: 1336-1344. ISSN: 1812-5638.*

66. *Geoffrey Muchiri Muketha, Abdul Azim Abdul Ghani, Mohd. Hasan Selamat and Rodziah Atan, 2010. Complexity Metrics for Executable Business Processes. Information Technology Journal, 9: 1317-1326. ISSN: 1812-5638.*

67. *Abdul Azim Abdul Ghani, Koh Tieng Wei, Geoffrey Muchiri Muketha and Wong Pei Wen, 2008. Complexity Metrics for Measuring the Understandability and Maintainability of Business Process Models using <u>Goal-Question-Metric (GQM)</u>. International Journal of Computer Science and Network Security, 8: 219-225. ISSN: 1738-7906.*

f) Publications (Book Chapters)

68. *Elyjoy Muthoni Micheni, Geoffrey Muchiri Muketha and Evance Onyango, 2019. <u>Interoperability of ERP Software</u>. In: Metrics and Models for Evaluating the Quality and Effectiveness of ERP Software. Edited by: Geoffrey Muchiri Muketha and Elyjoy Muthoni Micheni. IGI Global.*

69. *Samuel Mungai Mbuguah, Geoffrey Muchiri Muketha and Samuel Maragia, 2016. <u>E-Voting Challenges in Kenya</u>. In: Current Trends in Social and Educational Development: A Multi-Disciplinary Approach. Edited by Jotham Wasike, Ben Nyongesa and Irene Simiyu. KIBU Publications, 136-161.*

70. *Kennedy O. Ondimu, Geoffrey Muchiri Muketha and Collins O. Ondago, 2013. <u>E- business Adoption Framework in the Hospitality Industry: The Case of Kenyan Coast</u>. In: Research and Development in E-Business through Service-Oriented Solutions. Edited by: Katalin Tarnay, Lai Xu and Sandor Imre. IGI Global, 613-631.*

g) Publications (Authored Books/Edited Books & Journals)

71. *Geoffrey Muchiri Muketha (Associate Editor), 2024. <u>Journal of Innovation, Technology and Sustainability</u>. Murang'a University of Technology.*

72. *Geoffrey Muchiri Muketha and Elyjoy Muthoni Micheni (Editors), 2019. <u>Metrics and Models for Evaluating the Quality and Effectiveness of ERP Software</u>. IGI Global. ISBN13: 9781522576785.*

73. *Alice Nambiro, Geoffrey Muchiri Muketha and Matoke Nahason Matoke, 2016. <u>Assessment Framework for Cyber Security</u>. LAP Lambert Academic Publishing. ISBN: 9783659818783*

h) Publications (Conference Papers)

74. *Ann Wambui King'ori, Geoffrey Muchiri Muketha and John Gichuki Ndia, November 2023. <u>Towards a Measurement Framework for UML Behavioral Diagrams based on Complexity Perspectives</u>. MUT International Conference on Leveraging on Science, Technology and Innovation for Economic Transformation, Murang'a, Kenya.*

75. *Kevin Agina Onyango, Jackson Kamiri Wambugu, and Geoffrey Muchiri Muketha, November 2021. <u>A Comparative Study of the Lexicographical Complexity of Java, Python, and C Programming Languages Based on Program Characteristics</u>. MUT International Conference on Technology and Innovation for Sustainable Development, Murang'a, Kenya.*

76. *Jane Wanjiru Njuki, Geoffrey Muchiri Muketha, and John Gichuki Ndia, November 2021. <u>Information Security Metrics Models: A Systematic Literature Review</u>. MUT International Conference on Technology and Innovation for Sustainable Development, Murang'a, Kenya.*

77. *Stephen Kahara Wanjau, Geoffrey Muchiri Muketha, June, 2021. <u>A Novel Hybrid Deep Learning Model for Early Detection of Diabetic Retinopathy</u>. 11th International Interdisciplinary Conference, Nairobi, Kenya*

78. *John Gichuki Ndia, Geoffrey Muchiri Muketha, and Kelvin Kabeti Omieno, March 2020. <u>Implementation of a Structural Complexity Metrics Tool for Sassy Cascading Style Sheets (SCMT-SCSS)</u>. 1st Nyeri National Polytechnic (NNP) International Research Conference on Attaining Sustainable Growth through Science, Research, Technology and Innovation, Nyeri, Kenya.*

79. *Ephantus Gichuki Mwangi, Geoffrey Muchiri Muketha and Gabriel Kamau Ndung'u, May 2019. <u>A Review of Security Techniques against Black Hole Attacks in Mobile Ad hoc Networks</u>. 2019 IST-Africa Week Conference, Nairobi, Kenya.*

80. *Amos Chege Kirongo, Guyo Sarr Huka, Dorothy Gatwiri Bundi and Geoffrey Muchiri Muketha, November 2018. <u>Effective Use of Assistive Technologies for Inclusive Education in County Governments: Issues and Challenges from Two Case Studies</u>. 5th Kenya Methodist University Annual International Research Conference on Leveraging on Research and Innovation to Build a Global Competitive Economy, Meru, Kenya.*

81. *Faith Mueni Musyoka, Moses Thiga and Geoffrey Muchiri Muketha, August 2018. <u>A Blood Pressure Monitoring Prototype for Preeclampsia Management in Antenatal Care in Kenya</u>. Kabarak University International Conference on Translational and Preventive Healthcare, Nakuru, Kenya.*

82. *Geoffrey Muchiri Muketha, May 2018. <u>A New Complexity Metric for BPEL Processes based on Weighted Structured Activities and Invokes</u>. Proceedings of the 1st Annual International Conference on TVET as a Road Map to Socio-Economic Development in Africa, Nkabune Technical Training Institute, Meru, Kenya.*

83. *Samuel Mungai Mbuguah, Geoffrey Muchiri Muketha and Samuel Maragia, June 2016. <u>E-Voting Challenges in Kenya</u>. Kibabii University 1st International Conference; Bungoma, June 22-24.*

84. *Kevin Mwiti Njeru, Geoffrey Muchiri Muketha, Catherine Wanjiru Kiarie, Fellister Munyi and Kevin Murithi Njagi, October 2015. <u>A Government Driven Approach towards Green ICT Driven Economies</u>. The International Conference on Advancement of Business Management Practices in Africa (ICABUMPA) and the Intelligence for Innovation (IN4IN) Conference, 1-12, Nairobi.*

85. *Elyjoy M. Micheni, Isaiah Lule and Geoffrey Muchiri Muketha, October 2014. <u>Transaction Costs and Facilitating Conditions as Indicators of the Adoption of Mobile Money Services in Kenya</u>. Proceedings of the 2nd International Conference on Advanced Computing, Engineering & Technology (ICACET2013), 9-15, Malaysia.*

86. *Majdi Abdellatief, Abubaker Wahaballa and Geoffrey Muchiri Muketha, July 2012. <u>Measurement of Structure and Interaction Attributes of Component-based Software Systems</u>. The 5th Conference on Computer Communications, Network and Forensics (CCNF*

2012), Management and Science University, Malaysia.

87. *Simon Maina Karume and Geoffrey Muchiri Muketha, 2012. <u>Accelerating Research in Africa through Sustainable Virtual Research Communities</u>. Proceedings and Report of the 5th UbuntuNet Alliance Annual Conference, pp.23-38. ISSN 2223-7062.*

88. *Teh Phoey Lee and Geoffrey Muchiri Muketha. <u>Size Measures for Large Web Service Systems</u>. The 7th International Conference on Software Paradigm Trends (ICSOFT2012), 24-27 July 2012, Rome, Italy.*

89. *Erick K. Rotich, Shadrack K. Metto and Geoffrey Muchiri Muketha. <u>A Survey on Cyber Crime Perpetration and Prevention: A Review and Model for Cyber Crime Prevention.</u> The 2nd Annual International Scientific Conference, October 2012, Kabarak University, Nakuru, Kenya.*

i) Publications (Learning Module)

90. *Amos Chege Kirongo, Geoffrey Muchiri Muketha, Dorothy Gatwiri Bundi and Guyo Sarr Huka. <u>Trainer of Trainers Manual – Assistive Technologies</u>. A Learning Module for Trainers of Trainers (TOT) for the NRF-Funded Project: Competence Network for E-Inclusion and Assistive Technologies (CNEAT), January 2019.*

j) Publications (Technical Report)

91. *Samuel Mungai Mbuguah, Samuel Maragia and Geoffrey Muchiri Muketha, July 2012. <u>A Report of the Research Findings on E-Voting Debate in Kenya</u>, Masinde Muliro University of Science and Technology.*

k) Publications (Thesis)

92. *Geoffrey Muchiri Muketha. <u>Size and Complexity Metrics as Indicators of Maintainability of Business Process Execution Language Process Models</u>. PhD Thesis, <u>Universiti Putra Malaysia Library</u>, 2011.*

l) Invited Keynote Speeches in Conferences, Seminars and Workshops

1. *Geoffrey Muchiri Muketha. <u>Incorporating Innovation into our Research Ideas for Sustainable Development: An Interdisciplinary Perspective – Keynote Speech</u>. KeMU – 10th Annual Scientific Research Conference, Kenya Methodist University, Meru, 31st May 2023.*

2. *Geoffrey Muchiri Muketha. <u>The Art and Science of Writing Computing-based Research Proposals</u>. In: 1st MUT Computing Research Workshop, Murang'a University of Technology, Murang'a, 10th March 2023.*

3. *Geoffrey Muchiri Muketha. <u>Harnessing our ICT Skill Set and Research Efforts for Sustainable Development – Keynote Speech</u>. Meru University International Inaugural Research Conference, Meru University of Science and Technology, Meru, 28th – 30th June 2022.*

4. *Geoffrey Muchiri Muketha. <u>Statistics and Validation of Research Output in IT</u>. Postgraduate Research Seminar, Kabarak University, Nakuru, 3rd May 2022.*

5. *Geoffrey Muchiri Muketha. <u>Doing Competitive IT Research in Industry 4.0</u>. In: Industry 4.0 Technologies, the New Frontier in Computing Research. School of Computing and Informatics' Research Capacity Building Workshop, Masinde Muliro University of Science and Technology, Kakamega, 11th February 2021.*

6. *Geoffrey Muchiri Muketha. <u>Research Design and Methodology in Computing</u>. In: Masinde Muliro University of Science and Technology & Kaimosi Friends University College 1st Research Webinar, Masinde Muliro University of Science and Technology, Kakamega, 9th June 2020.*

7. *Geoffrey Muchiri Muketha. <u>Importance of Investing in Early Childhood and STEM Teaching</u>. In: Meru County Government's 2nd Education Day, Kenya Methodist University, Meru, 28th April 2017.*

8. *Geoffrey Muchiri Muketha. <u>Writing Winning Research Proposals for Funding</u>. In:*

Developing Quality and Innovative Research Proposals in Computing and Information Technologies. 5th Computer Science Department Seminar, Masinde Muliro University of Science and Technology, Kakamega, 29th March 2016.

m) Conference Session Chairing

1. *Technical Session Chair, MUT International Conference on Leveraging on Science, Technology and Innovation for Economic Transformation, November 2023, Murang'a, Kenya.*

2. *Technical Session Chair, MUT International Conference on Technology and Innovation for Sustainable Development, November 2021, Murang'a, Kenya.*

3. *Technical Session Chair, 1st NNP International Research Conference on Attaining Sustainable Growth through Science, Research, Technology and Innovation, March 2020 Nyeri National Polytechnic. Nyeri, Kenya.*

4. *Technical Session Chair, 1st Annual International Conference on TVET as a Road Map to Socio-Economic Development in Africa, May 2018. Nkabune Technical Training Institute, Meru, Kenya.*

n) Peer Reviewing

1. *Reviewer: Journal of Web Engineering*

2. *Reviewer: International Journal of Communication Networks and Distributed Systems*

3. *Reviewer: Proceedings of the 1st NNP International Research Conference on Attaining Sustainable Growth through Science, Research, Technology and Innovation, March 2020 Nyeri National Polytechnic. Nyeri, Kenya.*

4. *Reviewer: Proceedings of the 1st Annual International Conference on TVET as a Road Map to Socio-Economic Development in Africa, May 2018. Nkabune Technical Training Institute, Meru, Kenya.*

5. *Reviewer: IET Software Journal, UK.*

6. *Reviewer: Embedded and Real Time System Development: A Software Engineering Perspective. Book edited by: Mohammad Ayoub Khan, Saqib Saeed, Ashraf Darwish and Ajith Abraham. Springer, 2012.*

7. *Reviewer: 2nd International Conference on Software Engineering and Computer Systems (ICSECS2011), June 27-29, 2011, Pahang, Malaysia.*

POSTGRADUATE SUPERVISION

a) Completed PhD Theses

1. *Peter Maina Mwangi. An Extended Leach Protocol for Efficient Energy Consumption in Wireless Sensor Networks. PhD in Computer Science, 2024, Murang'a University of Technology.*

2. *Daniel Khaoya Muyobo. Multi-Agent Based Simulation Model to Improve Rule Based Legal Expertise in Health Consultancy in Kenya. PhD in Computer Science, 2023, Kibabii University.*

3. *Jane Wanjiru Njuki. A Security Measurement Framework and Metrics for Open- Source Enterprise Resource Planning Software. PhD in Information Technology, 2023, Murang'a University of Technology.*

4. *Jane Kinanu Kiruki. A Real-Time Intrusion Detection Model for Local Area Networks Based on Enhanced Alert Correlation. PhD in Information Technology, 2023, Murang'a University of Technology.*

5. *Ephantus Mwangi Gichuki. Trust-Based Resilient Cooperative Bait Detection Technique to Curb Black Hole Attacks in Mobile Ad Hoc Networks. PhD in Information Technology, 2021,*

Murang'a University of Technology.

6. *Samson Wanjala Munialo.* <u>*A Size Metric-Based Effort Estimation Method for Service-Oriented Architecture Software Systems.*</u> *PhD in Information Technology, 2020, Masinde Muliro University of Science & Technology.*

7. *John Gichuki Ndia.* <u>*Structural Complexity Framework and Metrics for Analyzing the Maintainability of Sassy Cascading Style Sheets.*</u> *PhD in Information Technology, 2020, Masinde Muliro University of Science & Technology.*

8. *Faith Mueni Musyoka.* <u>*Internet of Things Based Model for Preeclampsia Monitoring in Antenatal Care.*</u> *PhD in Information Technology, 2019, Kabarak University.*

9. *Nelson Bogomba Masese.* <u>*Predicting Mobile Social Software Learnability based on User Interface Feature Analysis.*</u> *PhD in Information Technology, 2018, Kibabii University.*

10. *Kennedy Ondieki Ondimu.* <u>*Resource Perspective-Based Situational Method for Improving Healthcare Business Process,*</u> *PhD in Information Technology, 2018, Masinde Muliro University of Science & Technology.*

11. *Simon Maina Karume.* <u>*Sustainability Assessment Model to Manage Electronic Waste Threat from Low-Cost Computers for Learning in Kenya,*</u> *PhD in Information Technology, 2014, Masinde Muliro University of Science & Technology.*

12. *Elyjoy Muthoni Micheni.* <u>*Platform-Level Interoperability for Mobile Money Transfer Systems,*</u> *PhD in Information Technology, 2014, Masinde Muliro University of Science & Technology.*

13. *Anselmo Ikoha Peters.* <u>*Technical Factors and User Personality Characteristics as Indicators of Smart Phone Integration into Self-Directed Learning in Universities,*</u> *PhD in Information Technology, 2014, Masinde Muliro University of Science & Technology.*

b) *Completed M.Sc. Theses*

1. *Nevy Kimani Maina, 2023.* <u>*A Complexity Evaluation Model for Web Based Multi- Language Software Architectures.*</u> *MSc, Murang'a University of Technology.*

2. *James Maina Mburu, 2021.* <u>*An Enhanced Multiview Test Case Generation Technique for Object Oriented Software Using Class and Activity Diagrams.*</u> *MSc, Murang'a University of Technology.*

3. *Kenneth Gitonga Ntonja, 2021.* <u>*Data Privacy Preserving Cloud Model for Healthcare Management Systems Based on Multifactor Authentication.*</u> *MSc, Murang'a University of Technology.*

4. *Kevin Agina Onyango, 2021.* <u>*A Metrics-Based Fuzzy Logic Model for Predicting the Reusability of Object-Oriented Software.*</u> *MSc, Murang'a University of Technology.*

5. *Ann Wambui King'ori, 2021.* <u>*Cognitive Complexity Metrics for UML Statechart Diagrams.*</u> *Murang'a University of Technology.*

6. *Stella Nafula Khaemba, December 2018.* <u>*Citizen Readiness Evaluation Framework for E-Government Systems,*</u> *Masinde Muliro University of Science & Technology.*

7. *Njeru Mwiti Kevin, December 2016.* <u>*A Model for Green Information Systems Adoption in Developing Economies: Case of Kenya,*</u> *Mount Kenya University.*

8. *Sarah Wanja Njoroge, December 2015.* <u>*An Evaluation Model for Information Systems Service Quality in Banking Industry,*</u> *Masinde Muliro University of Science & Technology.*

9. *Lilian Rono, December 2015.* <u>*A Requirements Elicitation Model for Heterogeneous User Groups in Public Universities in Kenya,*</u> *Masinde Muliro University of Science & Technology.*

10. *Faith Mueni Musyoka, December 2014.* <u>*Assessment Framework for Internet Banking System Reliability,*</u> *Masinde Muliro University of Science & Technology.*

11. *Alice Wechuli Nambiro, December 2014.* <u>*Assessment Framework for Cyber Security in Government Ministries,*</u> *Masinde Muliro University of Science & Technology.*

c) Ongoing Supervision

1. *Ann Wambui King'ori. <u>A Perspective-Based Metrics Framework for Predicting the Analysability of UML Behavioral Diagrams</u>. PhD in Information Technology, Murang'a University of Technology. Estimated graduation date: 2025.*

2. *Kevin Agina Onyango. <u>An Architecture-Based Complexity Classification Framework and Metrics for Analysing the Modifiability of Laravel Software</u>. PhD in Information Technology, Murang'a University of Technology. Estimated graduation date: 2025.*

3. *Fortine Mwihaki Mata. <u>A Trust Based Multi Path Congestion Avoidance Technique to Curb Malicious Activity for Mobile Nodes in Wireless Sensor Networks</u>. PhD in Computer Science, Murang'a University of Technology. Estimated graduation date: 2025.*

4. *Kelvin Mutunga Katonyi. <u>A Metrics-Based Model for Analyzing the Modularity of Aspect Oriented Software</u>. MSc in Information Technology, Murang'a University of Technology. Estimated graduation date: 2024.*

5. *Fredrick Ng'ang'a Njung'e. <u>A Transformer-Based Model for Hate-Speech Detection in English-Kiswahili Code-Switched Social Media Text</u>. MSc in Information Technology, Murang'a University of Technology. Estimated graduation date: 2025.*

POSTGRADUATE THESES EXAMINATION

a) Served as External Examiner for the Following PhD Theses

1. *N. Vinotha, 2024. A Hybrid Optimization Approach of K-Anonymity Model for Efficient Privacy Preservation. PhD Thesis, Anna University, Chennai, India.*

2. *Peter Ndwiga Muturi, 2023. <u>Modeling Re-Identification Probability in Differentially Private Data Release for Data Analytics</u>. PhD Thesis, University of Nairobi.*

3. *Otieno H. Benjamin, 2022. <u>Computer Model for Fair Risk Scoring Among Small Scale Farmers in Kakamega County, Kenya</u>. PhD Thesis, Kibabii University.*

4. *Consolata Gakii Mugwika, 2022. <u>Graph-Based Feature Selection Model for Genes' Phenotype Prediction</u>, PhD Thesis, Jomo Kenyatta University of Agriculture & Technology.*

5. *M. B. Muthukumaresan, 2022. <u>Machine Learning and Smart IoT System Based Explosive Materials Detection Approaches</u>, PhD Thesis, St. Peter's Institute of Higher Education and Research (Deemed to be University), Chennai, India.*

6. *P. Sasikala, 2021. <u>Hybrid Recommendation System by Integrating Subjective Opinion and Rating</u>, PhD Thesis, Mother Teresa Women's University, Kodaikanal, India.*

7. *Gabriel Macharia Kamau, 2020. <u>Reducing the Data Hiding Problem Space in Web Based Teleradiology Steganography using a Modified Trans Domain Bit-Plane Complexity Segmentation Method</u>, PhD Thesis, Jomo Kenyatta University of Agriculture & Technology.*

8. *Charles Ochieng Oguk, 2020. <u>Investigating the Elements for Developing Information Technology Security Metrics Model for Universities in Kenya</u>, PhD Thesis, Kabarak University.*

9. *Gilbert Gilibrays Ocen, 2019. <u>A multi-Platform Digital Forensic Evidence Extraction Process Model and Metrics for Mobile Devices</u>. PhD Thesis, Masinde Muliro University of Science & Technology.*

10. *Satwinder Singh Rupra, 2019. <u>A Cloud Computing Security Deployment Framework for Small and Medium Enterprises in Kenya</u>, PhD Thesis, Kabarak University.*

11. *S. Vimaladevi, 2019. <u>Performance dashboard for distance learners through cloud computing</u>, PhD Thesis, Vinayaka Missions Kirupananda Variyar Engineering College, Vinayaka Mission's Research Foundation (Deemed to be University), Salem, India.*

12. *Anthony Muli Mile, 2018. <u>Hybrid Interference Mitigation Model for Wireless Body Area Sensor Networks in High Mobility Multi-WBAN Scenarios</u>, PhD Thesis, Jomo Kenyatta*

University of Agriculture & Technology.

13. *Mani Prakash, 2017. <u>Energy Efficient Region Based Localized Target Tracking for Improved Geocast in Mobile Adhoc Networks</u>, PhD Thesis, Bharathidasan University, India.*

14. *Calvins Otieno, 2016. <u>Unified Class Coupling Model for Coupling Measurement in Object Oriented Software Systems</u>, PhD Thesis, Jomo Kenyatta University of Agriculture & Technology.*

15. *Kennedy Odhiambo Ogada, 2015. <u>N-grams for Improved Text Classification using Supervised Machine Learning Algorithms: A Case of Hate Speech in Kenya</u>, PhD Thesis, Jomo Kenyatta University of Agriculture & Technology.*

b) Served as External Examiner for the Following M.Sc. Theses

15. *Boniface Mwaniki, 2024. <u>Predicting Crime Patterns Using Tree-Based Machine Learning Algorithms</u>. Jomo Kenyatta University of Agriculture & Technology.*

16. *Yego Junior Kiplimo, 2023. <u>A Deep Reinforcement Learning Approach to Modelling an Intrusion Detection System using Asynchronous Advantage Actor-Critic Algorithm</u>. Moi University.*

17. *Ms. Damaris Naliaka Simiyu, 2023. <u>A Simulating Chatbot Prototype for Training Users on Blockchain Technology</u>. Moi University.*

18. *Mr. Ganda Henry Ochieng, 2022. <u>Adoption and Use of ICT for Self-Help Groups in Kesses Sub-County Kenya</u>. Moi University.*

19. *Ms. Tabitha Muthoni Kihara, 2022. <u>A Model Mobile Phone Based Livestock Health Advisory System</u>, Moi University.*

20. *Ms. Ann Wamaitha Kimani Gichuru, 2022. <u>A Model Students E-Counselling Portal</u>, Moi University.*

21. *Mr. Kamau Harun Kariuki, 2019. <u>Integration of a Memory Analyzer to the Browser Reference Architecture</u>, Maseno University.*

22. *Mr. Wafula Michael Masibo, 2018. <u>Developing a Web Platform for the Discovery of Digital Heroes from Stack Overflow Developer Community Forum using Data Mining Approach</u>, Moi University.*

23. *Mr. Wafula Michael Masibo, 2018. <u>A Model Android Phone Based System for Managing Class Attendance using QR Codes and Indoor Location</u>, Moi University.*

24. *Mr. Joel Mosonik, 2018. <u>ICT-Enabled Collaboration Platform for Addressing Climate Change at Moi University, Kenya</u>, Moi University.*

25. *Mr. Bernard Rotich, 2018. <u>Analysis of Tuberculosis Surveillance with a View of Enhancing Current in Kenya</u>, Moi University.*

26. *Ms. Fridah Nyamisa Mang'are, 2018. <u>A Semantic Enhanced Model for Product Information Retrieval</u>, Jomo Kenyatta University of Agriculture & Technology.*

27. *Mr. Alain Nizigiyimana, 2018. <u>Use of Enhanced Transparent Data Encryption to Protect Database against Exposure of Backup Data</u>, Jomo Kenyatta University of Agriculture & Technology.*

28. *Mr. Jacob Oloo, 2018. <u>Framework for Computer Aided Education and Training for Hearing Impaired Learners</u>, Jomo Kenyatta University of Agriculture & Technology.*

29. *Mr. Tito Wawire, 2018. <u>A Framework for Integrating Social Networks for Personalized and Interactive Web-Based Learning</u>, Jomo Kenyatta University of Agriculture & Technology.*

30. *Ms. Faith Chepkisich Kibas, 2018. <u>A Geographic Information System Model for Mapping Water Supply Fault Locations</u>, Moi University.*

31. *Mr. Lusweti Kelvin Sitati, 2018. <u>Factors Influencing Technology Acceptance Model on Successful Implementation of ICT Policies in Public Institutions in Kenya</u>, Jomo Kenyatta University of Agriculture & Technology.*

32. *Ms. Mange Gladys Nkatha, 2018. Leveraging Social Networking Sites to Enhance Learning among University Students: A Case Study of Jomo Kenyatta University of Agriculture and Technology, Kenya, Jomo Kenyatta University of Agriculture & Technology.*

33. *Mr. Kennedy Mulongo Lukhando, 2018. Determinants of Information and Communication Technology Policy Implementation for Small and Medium Enterprises in Kenya, Jomo Kenyatta University of Agriculture & Technology.*

34. *Ms. Beryl Adhiambo Odhiambo, 2018. Framework for Improving Usability of Learning Management Systems by Integrating Pedagogical Agent, Jomo Kenyatta University of Agriculture & Technology.*

35. *Mr. James Kiprop Kosgey, 2017. A Website Evaluation Model for Determining Quality in Academic Websites, Jomo Kenyatta University of Agriculture & Technology.*

36. *Mr. Charles Wamuti Kimani, 2017. A Synchronous Collaborative Service Oriented Mobile Learning Architecture (SCSOMLA), Jomo Kenyatta University of Agriculture & Technology.*

37. *Ms. Beatrice Wairimu Kamau, 2017. Information Security Management Framework for E-Government in the Kenyan Public Sector: A Case of the Ministry of Public Service, Youth and Gender Affairs, Jomo Kenyatta University of Agriculture & Technology.*

38. *Mr. Eric Ndizihiwe, 2017. Combining Agile and Human Centered Design Approach for Usability Testing for Software Development, Jomo Kenyatta University of Agriculture & Technology.*

39. *Mr. David Munene Mungathia, 2017. Effectiveness of Cloud Technology on Management of Chronic Diseases in Kenya, Jomo Kenyatta University of Agriculture & Technology.*

40. *Mr. Tarus Nicholas Kiprotich, 2017. Remote Evaluation of an Interface Usability using Asynchronous Auto-Logging Methodology, Jomo Kenyatta University of Agriculture & Technology.*

41. *Mose Matara Sharon, 2016. E-Government Architecture Model for Government-to-Government Deployment of Interoperable Systems: A Case Study of County and National Government in Kenya, Jomo Kenyatta University of Agriculture & Technology.*

42. *Ms. Amina Saleh Omar, 2016. Application of Fuzzy Logic in Qualitative Performance Measurement of Supply Chain Management, Jomo Kenyatta University of Agriculture & Technology.*

43. *Ms. Florence K. Maweu, 2016. An E-Government Integration Framework for County Governments in Kenya: A Case Study of County Government of Kirinyaga, Jomo Kenyatta University of Agriculture & Technology.*

44. *Mr. Hillary Kipkorir Langat, 2016. A Content-Incentive Usability Framework for Corporate Portal Design from a Knowledge Management Perspective, Jomo Kenyatta University of Agriculture & Technology.*

45. *Mr. Richard Kayanga Nyakundi, 2016. End User Factor Model for Adoption of Mobile Learning, Jomo Kenyatta University of Agriculture & Technology.*

46. *Ms. Maurine Awuor Onyango, 2015. An Enhanced Model for Adoption of Local Softwares: A Case of Kenya, Jomo Kenyatta University of Agriculture & Technology.*

47. *Ms. Nyaanga Phane Kemunto, 2014. Crowdsourcing as a Platform for Monitoring Government Projects, Jomo Kenyatta University of Agriculture & Technology.*

48. *Ms. Ongadi Lydiah Sophie, 2014. An Assessment of Impediments of Information Systems Integration in Kenyan Judicial System: A Case of Central Rift Region, Kisii University.*

49. *Ms. Ngari Catherine Waithira, 2014. Assessment of the Usability and Accessibility of Audio CAPTCHA Design Schemes by the Visually Challenged Web Users in Institutions of Higher Learning in Kenya, Kisii University.*

50. *Ms. Kiarie Catherine Wanjiru, 2014. Towards a Model for Telecommuting Adoption Based on Selected Customer Care Representatives in the Mobile Communication Industry in Kenya, Kisii University.*

51. *Ms. Janet Shikhuyu, 2014. <u>Use of Thin Client Technology in Bridging the Digital Divide in Secondary Schools in Kenya</u>, Kisii University.*

52. *Ms. Munyao Victoria Wayua, 2014. <u>Effectiveness of Strategies Implemented to Improve Customer Service in Academic Libraries in Kenya: A Case of Jomo Kenyatta University of Agriculture and Technology Library</u>, Kisii University.*

53. *Ms. Chau G. Wanjiru, 2014. <u>Influence of the Digital Environment on the Information Seeking Behavior of Postgraduate Students in Kenya: A Case of Mt. Kenya University Main Library Thika</u>, Kisii University.*

54. *Mr. Joash Kiprotich Bii, 2013. <u>Enhancing mobile user experience based on an image filtering technique</u>, Jomo Kenyatta University of Agriculture & Technology.*

c) Served as Internal Examiner for the Following PhD Thesis

55. *Dr. Catherine Wambui Mukunga, 2023. <u>A Metrics Based Model for Estimating the Maintenance Effort of Python Software</u>. Murang'a University of Technology.*

d) Served as Internal Examiner for the Following M.Sc. Theses

56. *Mr. George Mwangi Muhindi, 2021. <u>Detection of Visual Similarity Snooping Attacks in Emails using an Extended Client Based Technique</u>. Murang'a University of Technology.*

57. *Mr. Ayub Husein Shirandula, 2012. <u>Evaluation of data security measures in a network environment: towards developing cooperate data security guidelines</u>, Masinde Muliro University of Science & Technology.*

58. *Mr. Michael Okumu Ujunju, 2012. <u>Evaluating the role of ICT support towards supporting management processes in institutions of higher learning</u>, Masinde Muliro University of Science & Technology.*

59. *Mr. Fullgence Mwachoo Mwakondo, 2012. <u>Visualization of network systems and</u> <u>computer resources</u>, Masinde Muliro University of Science & Technology.*

60. *Ms. Rose Nafula Wanjala, 2012. <u>Impact of ICT-based market information systems on agricultural commodity markets in Bungoma County</u>, Masinde Muliro University of Science & Technology.*

MEMBERSHIP TO PROFESSIONAL BODIES

1. *Member, International Association of Engineers (IAENG), Member No. 101022.*

2. *Member, IAENG Society of Computer Science (ISCS), Member No. 101022.*

3. *Member, IAENG Society of Software Engineering (ISSE), Member No. 101022.*

HOBBIES

Helping people with non-computing backgrounds to better understand and therefore appreciate what computers can do for them, reading fiction, and visiting new places.

REFEREES

1. *Prof. Dickson M. Nyariki, PhD,*
   Vice Chancellor,
   Murang'a University of Technology,
   P.O. Box 75-10200,
   Murang'a.

2. *Prof. Prisca J. Tuitoek, PhD,*
   Deputy Vice Chancellor (Academic, Research and Student Affairs), Murang'a
   University of Technology,

P.O. Box 75-10200,
Murang'a.

3. *Prof. Franklin Wabwoba, PhD,*
   Director, TVET,
   Kibabii University,
   P.O. Box 1699-50200,
   Bungoma, Kenya.