

CURRICULUM VITAE

OJENGE WINSTON

Africa Centre for Technology Studies, ICIPE Duduville Campus, Kasarani

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EDUCATION

PhD in Computer Science, Technical University of Kenya, 2013-2018

Title: Prediction of T.V. Spectrum Holes for Cognitive Radio Using Artificial Neural Networks

Master of Science in Information Systems (Artificial Intelligence Option), University of Nairobi, 2005-2008

Bachelor of Technology Education, (Electrical Technology), Moi University, 1989-1993

Project: Intruder Detection System

WORK EXPERIENCE

Research Fellow, African Center for Technology Studies, March 2021-present

- Leading Digital Economy Sub-Program

Lecturer, The Technical University of Kenya, Jul. 2005 – present

- Artificial intelligence and expert systems; machine learning; robotics and cybernetics; control engineering

Academic Team Leader, Dep. of Computational Science and Engineering, Nov 2019 - present

- Design curriculum; provide academic and research leadership within the department

Founder/Coordinator, Innovation & Research Center at the university, June 2017 - present. Center is currently developing the following;

- Online Career Guidance System
- Automatic School Bell with GSM/Web Override
- School Bus Location Monitoring Tool

Experience of 7 years in Innovative Digital and ICT system design and development, Examples;

- Design and development of E-learning platform
- Design and development of GSM-based monitoring of industrial printer operation
- Design and development of IoT/ Machine Learning-based water treatment plant to be used a control system laboratory kit in 2020 (ongoing)
- Design and development of IoT and Machine Learning-based air pollution mapping against respiratory infection prevalence in 3 locations of varying pollution in 2020 (ongoing)
- Design and development of Soweto Academy (Kibra Slums) fish pond monitoring system and vegetable garden automatic irrigation system (Sponsored by visiting staff from GTC, Sweden)

Patent Awarded (June, 2021)

TV Receiver Channel Consumption Monitoring Tool

Patent applications in Review (2019/2020)

1. School Bus Location Monitoring Tool
2. Forum Attendance Management Tool
3. Field Officer Performance Monitoring Tool
4. Automatic School Bell with GSM/Web Override

Plans:

- Developing innovative technology for the African society
- Bridge academia with industry by converting the innovations for use by industry
- Develop a center that incubates youth's innovations and tailors them for market

SELECT AI-BASED PAPERS WRITTEN

a) Conference Publications

- a) Winston, O; Thomas, A; Patrick, O; William, O.; 2013. PSO OF NEURAL NETWORKS TO PREDICT BUSY TIMES OF CELLULAR TRAFFIC FOR ASSIGNMENT TO TV IDLE CHANNELS BY COGNITIVE RADIO. 7th UKSim/AMSS European Modeling Symposium, EMS 2013, 20th-22nd, NOVEMBER, 2013, Manchester UK. IEEEXplore Digital Library: IEEE 2013. Print ISBN: 978-1-4799-2577-3; Digital Object Identifier: 10.1109/EMS.2013.8; INSPEC Accession Number: 14199510. Page(s) 48 – 52.
- b) Winston Ojenge; Thomas Afullo; William Okelo Odongo; 2013. OPTIMIZING NEURAL NETWORKS FOR TV IDLE CHANNEL PREDICTION IN COGNITIVE RADIO USING PARTICLE SWARM OPTIMIZATION. Fifth International Conference on Computational Intelligence, Communication Systems and Networks (CICSyN2013), Madrid, Spain. 5th – 7th, JUNE, 2013. IEEEXplore Digital Library: IEEE 2013. Print ISBN: 978-1-4799-0587-4; DOI - 10.1109/CICSYN.2013.68; INSPEC Accession Number: 13684502. *CICSyN*, page 25-29.

b) Journal Publications

- a) W. Ojenge, W. Okelo-Odongo and P. Ogao, 2015. Comparing PSO and GA optimizers in MLP to Predict Mobile Traffic Jam Times. International Journal of Computer Science and Information Security (IJCSIS), Vol. 13, No. 10, Pp. 19-30, October 2015. ISSN 1947 – 5500
- b) Ojenge W., Okelo-Odongo W., Ogao P., 2016. Use of GA-Optimized NN to Predict DVB-T2 Receiver Spectrum Holes. International Journal of Simulation: Systems, Science and Technology, Vol. 16. DOI 10.5013/IJSSST.a.16.04.12. ISSN: 1473-804x online, 1473-8031 print

REFEREES

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TIVET Advisor to Cabinet Secretary, Ministry of Education, Prof. George Magoha, and also an Associate Professor in;

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