Cedric Sean Okinda
Researcher, Lecturer

Details
Busia Rd., 1677 – 40100,
Kisumu, Kenya.
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cokinda@mmust.ac.ke
cedsean@hotmail.com

Nationality
Kenyan

Links
Research Gate
LinkedIn
Google Scholar
ORCID

Skills
Research

Project Planning

Project Management

Data Science

MATLAB & Python

OpenCV

Artificial Intelligence

Computer Applications

Languages
English

Kiswahili

Chinese

Hobbies
Soccer, Reading, Hiking, Watching Documentaries, Community Work

Profile

Highly ambitious, performance-driven Electrical and Electronics Engineering professional, with a successful track record of over six years experience in research, development and implementation of intelligent automated systems.

Strong capacity to manage projects on strict timelines directed by the outlined objectives

Outstanding written and oral communication skills with comprehensive experience in numerous forms of dissemination of information and knowledge.

Author of over 30 research, review, and survey articles.

Strives to make every day substantial and meaningful by performing to the best of my ability and any other responsibility delegated in an ethical manner.

Education

Ph.D. in Agricultural Electrification and Automation Engineering.
September 2017 – December 2021.
Nanjing Agricultural University, Nanjing, China.

Master degree in Agricultural Electrification and Automation Engineering.
September 2014 – June 2017
Nanjing Agricultural University, Nanjing, China.

Bachelor of Engineering (Hons) in Electrical and Electronics Engineering.
August 2007 – December 2012
Moi University, Eldoret, Kenya.

Employment History

Lecturer at Masinde Muliro University of Science and Technology, Kakamega, Kenya.
November 2021 – Present.
Lecturer in the Department of Engineering and Communication Engineering

Tutorial Fellow at Egerton University of Science and Technology, Nakuru, Kenya.
July 2021 – October 2021.
Lecturer in the Faculty of Engineering and Technology.

Ph.D. Research Scholar, at Nanjing Agricultural University, Nanjing, China.
September 2017 – June 2021.
Research, development and implementation of smart farms systems and detection technology in agricultural systems.

Teaching Assistant at Nanjing Agricultural University, Nanjing, China.
March 2016 – November 2019.
Teaching assistant in the department of Electrical and Electronics Engineering

Lecturer at Jaramogi Oginga Odinga University of Science and Technology, Bondo, Kenya.
July 2016 – Present.
Part-time lecturer in the School of Informatics and Innovative Systems.

Professional Registration
Registered Graduate Engineer.
2013 – Present:
Engineers Registration Board of Kenya. Member No B 7685
Registered Graduate Member.
2021 – Present:
Institute of Engineers of Kenya. Member No G 9768

Teaching and Research Interests
Smart Farm systems

Electronics and Electrical systems

Artificial Intelligence

Big Data Analytics and Systems

Internet of Things

Computer Vision and Machine Vision

Deep Learning and Machine Learning

Animal welfare monitoring systems

Robotics and Teleoperation

Electrical Control Systems

Key Research Projects
Co-pi; Funded by the World Bank through Kenya Agricultural and Livestock
Research Organization under Kenya Climate Smart Agriculture Project
"Validation of improved biomass cook stoves in Baringo and West Pokot counties"
Funding: £. 130,037.21
Duration: 1st February 2020 to 31st January 2022

Lead researcher; grant from the Government of the United Kingdom of
Great Britain and Northern Ireland acting through Department for International Development (DFID).
"Development and evaluation of solar electric pressure cookers- case study in Mogotio and Mbaruk"
Funding: £. 126,581.00.
Duration: 1st September 2019 to 31st August 2021

Publications: Dissertations/Theses
The Application of Computer Vision in The Monitoring of Welfare-Related Phenotypic Indices in Livestock: A Case Study in Chicken and Pigs.
December 2021. Ph.D. Thesis: Nanjing Agricultural University.

Research, Design, And Implementation of Swine Live Weight Estimation by Adaptive Neuro-Fuzzy Inference System.
June 2017. M.Sc. Thesis: Nanjing Agricultural University.

Publications: Journal Articles
On-line weight estimation of broiler carcass and cuts by a computer vision system
September, 2021. Poultry Science.
https://doi.org/10.1016/j.psj.2021.101474

Weight and volume estimation of single and occluded tomatoes using machine vision.

June 2021. International Journal of Food Properties.
https://doi.org/10.1080/10942912.2021.1933024

Effect of no-till precise seeding on wheat (*Triticum Aestivum L.*) population quality at the emergence stage.
June 2021. Journal of Animal and Plant Sciences
https://doi.org/10.36899/JAPS.2022.1.0414

Medial axis-based machine-vision system for orchard robot navigation.
April, 2021. Computers and Electronics in Agriculture.
https://doi.org/10.1016/j.compag.2021.106153

Factors Affecting Adaptation to Climate Change through Agroforestry in Kenya.
April, 2021. Land.
https://doi.org/10.3390/land10040371

Short-term feeding behaviour sound classification method for sheep using LSTM networks.
March 2021. International Journal of Agricultural and Biological Engineering.
https://doi.org/10.25165/j.ijabe.20211402.6081

Weight and volume estimation of poultry and products based on computer vision systems: A review.
February, 2021. Poultry Science.
https://doi.org/10.1016/j.psj.2021.101072

Separation of partially occluded rice kernels and variety classification based on computer vision.
November 2020. International Agricultural Engineering Journal
http://114.255.9.31/iaej/EN/Y2020/V29/I4/23

A review on computer vision systems in monitoring of poultry: A welfare perspective*.
September, 2020. Artificial Intelligence in Agriculture.
https://doi.org/10.1016/j.aiia.2020.09.002

Wheat Grain Yield Estimation Based on Image Morphological Properties and Wheat Biomass.
September, 2020. Journal of Sensors.
https://doi.org/10.1155/2020/1571936

Approaches used to model prediction of cutting forces for tillage tools: A review.
June, 2020. International Agricultural Engineering Journal.
http://114.255.9.31/iaej/EN/abstract/abstract1167.shtml

Factors influencing marketing channel choices for improved indigenous chicken farmers: insights from Baringo, Kenya.
May, 2020. British Food Journal.
https://doi.org/10.1108/BFJ-11-2019-0841

Egg volume estimation based on image processing and computer vision*.
March, 2020. Journal of Food Engineering.
https://doi.org/10.1016/j.jfoodeng.2020.110041

Construction of sheep forage intake estimation models based on sound analysis.
February, 2020. Biosystems Engineering.
https://doi.org/10.1016/j.biosystemseng.2020.01.024

Factors Influencing Smallholder Farmers Participation in Collective Marketing and the Extent of Participation in Improved Indigenous Chicken Markets in Baringo, Kenya
January, 2020. Asian Journal of Agricultural Extension, Economics & Sociology.
https://doi.org/10.9734/ajaees/2019/v37i430283

A machine vision system for early detection and prediction of sick birds: A broiler chicken model*.
December, 2019. Biosystems Engineering.
https://doi.org/10.1016/j.biosystemseng.2019.09.015

Recognition and Classification of Broiler Droppings Based on Deep Convolutional Neural Network.
November, 2019. Journal of Sensors.
https://doi.org/10.1155/2019/3823515

Automatic recognition of sheep chewing sounds based on sparse representation classification
August, 2019. International Agricultural Engineering Journal.
http://www.iaej.cn/EN/abstract/abstract1089.shtml

Tomato volume and mass estimation using computer vision and machine learning algorithms: Cherry tomato model
July, 2019. Journal of Food Engineering.
https://doi.org/10.1016/j.jfoodeng.2019.07.012

Development and parameter optimization of automatic separation and identification equipment for grain tracing systems based on grain tracers with QR codes
July, 2019. Computers and Electronics in Agriculture.
https://doi.org/10.1016/j.compag.2019.04.039

A computer vision system for defect discrimination and grading in tomatoes using machine learning and image processing
June, 2019. Artificial Intelligence in Agriculture.
https://doi.org/10.1016/j.aiia.2019.06.001

Detection of an onset of farrowing by classification of crated sow's activities*.
December, 2018. International Agricultural Engineering Journal.
http://www.iaej.cn/EN/abstract/abstract827.shtml#

An automatic ear base temperature extraction method for top view piglet thermal image.
November, 2018. Computers and Electronics in Agriculture.
https://doi.org/10.1016/j.compag.2018.10.030

Determination and Visualization of Different Levels of Deoxynivalenol in Bulk Wheat Kernels by Hyperspectral Imaging.
November, 2018. Journal of Applied Spectroscopy.
https://doi.org/10.1007/s10812-018-0745-y

Asphyxia occurrence detection in sows during the farrowing phase by interbirth interval evaluation*.
July, 2018. Computers and Electronics in Agriculture.
https://doi.org/10.1016/j.compag.2018.07.007

Comparative analysis of effects of different agitation impeller designs in maintaining nutrients homogeneity in fertigation tanks.

June, 2018. International Agricultural Engineering Journal.
http://www.iaej.cn/EN/abstract/abstract692.shtml

Design and realization of a greenhouse temperature intelligent control system based on NB-IoT.
March, 2018. Journal of South China Agricultural University.
https://doi.org/10.7671/j.issn.1001-411X.2018.02.018

Swine live weight estimation by adaptive neuro-fuzzy inference system*.
March, 2018. Indian Journal of Animal Research.
https://doi.org/10.18805/ijar.v0iOF.7250

An Implementation of a Low-Cost Tomato Sorter by A Monochromatic Camera and Arduino.
February, 2018. International Journal of Emerging Technology and Advanced Engineering.
www.ijetae.com/files/Volume8Issue2/IJETAE_0218_32.pdf

Modified Conventional RGB Camera in Obtaining NDVI Spectral Bands at Ground Level Crop Canopy.
February, 2018. International Journal of Emerging Technology and Advanced Engineering.
https://ijetae.com/files/Volume8Issue3/IJETAE_0318_01.pdf

Ultrasound assisted alkaline pre-treatment of sugarcane filter mud for performance enhancement in biogas production.
January, 2018. International Journal of Agricultural and Biological Engineering.
https://doi.org/10.25165/j.ijabe.20181101.3441

Mass-Based Image Analysis for Evaluating Straw Cover under High Residue Farming Conditions in Rice-Wheat cropping system.
September, 2017. Agricultural Research.
https://doi.org/10.1007/s40003-017-0287-1

Optimization of compression formulation and load of food-grade tracers for grain traceability using central composite design.
November, 2017. International Journal of Agricultural and Biological Engineering.
https://doi.org/10.25165/j.ijabe.20171006.3531

Sow antenatal behaviour monitoring system design based on ultrasonic.
August, 2016. China Agricultural University Journal.
https://cdmd.cnki.com.cn/Article/CDMD-10307-1019134104.htm

New-born piglet recognition method based on machine vision.
June, 2016. Journal of Nanjing Agricultural University.
https://www.cnki.com.cn/Article/CJFDTotal-NJNY201701024.htm

Implementation Web Decision Support Model for Predicting Performance of Field Machinery Operation (DWDSS).
July, 2015. International Journal of Engineering Works.
https://zenodo.org/record/27266#.YFJErtxRW00

Intelligent Energy Saving Systems*.
December, 2015. International Journal of Emerging Technology and Advanced Engineering.
http://www.ijetae.com/files/Volume5Issue12/IJETAE_1215_29.pdf

Professional Appointments & Assignments

Journal of Cleaner Production
Reviewer, (2021 ++)

Artificial Intelligence in Agriculture (Artif. Intell. Agric.)
Reviewer, (2018 ++)

Journal of Food Engineering (J. Food Eng)
Reviewer, (2018 ++)

International Agricultural Engineering Journal (Int. Agric. Eng. J.)
Reviewer, (2017 ++)

Conference Attended

Prepublication Conference on the Engineers Rules 2021
November 2021. Virtual, Kenya.

Symposium on Animal Health and Welfare.
August, 2019. Shenzhen, China.

International Forum on Innovations in Food, Land, Energy and Water Systems in Asia.
May, 2019. Nanjing, China.

Agricultural Internet of Things and Intelligent Agriculture Development.
December, 2018. Nanjing, China.

Asia-Pacific International Congress of Plant Phenotypes.
March, 2018. Nanjing, China.

International symposium on Animal Environment and Welfare.
October, 2017. Chongqing, China.

Artificial Intelligence in Agriculture Seminar.
April, 2017. Xi-an, China.

Asian Conference on Precision Livestock Farming.
September, 2016. Beijing, China.

International symposium on Animal Environment and Welfare.
October, 2015. Chongqing, China.

References

Prof. Shen Mingxia, from Nanjing Agricultural University.
mingxia@njau.edu.cn +86 138 5171 8164.

Prof. Zhang Baohua, from Nanjing Agricultural University.
bhzhang@njau.edu.cn +86 138 1384 1336

Eng. John Odhiambo, from Pride Engineering.
odhiambojhn2010@gmail.com +254 723 719115.