Ciira wa Maina

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Homepage: https://sites.google.com/site/cwamainadekut/

Summary

• Member of the organising committee of Data Science Africa which aims to improve machine learning expertise in Africa to enable development of high impact solutions to local problems.

Tel: +254(0)716196331

Citizenship: Kenya

- Principal investigator of the Kenya bioacoustics project which leverages low cost electronics and machine learning for environmental monitoring.
- Passionate researcher developing local solutions to problems in my immediate environment with potential global impact by leveraging my expertise in signal processing, machine learning and electrical engineering.

RESEARCH INTERESTS

Data Science, Machine learning, Bioacoustics, Statistical signal processing, Computational Biology, Communication systems, Engineering Education.

EMPLOYMENT

Dedan Kimathi University of Technology, Nyeri, Kenya

Senior Lecturer, Electrical Engineering June 2015 to present

Chairman, Department of Electrical Engineering May 2014 to present

Lecturer, Electrical Engineering September 2013 to May 2015

University of Sheffield, Sheffield, UK

Postdoctoral Research Associate October 2011 to August 2013

Drexel University, Philadelphia, PA USA

Research and Teaching Assistant September 2007 to September 2011

EDUCATION

Drexel University, Philadelphia, PA

Ph.D., Electrical and Computer Engineering, September 2011

University of Nairobi, Nairobi, Kenya

B.Sc., Electrical and Electronic Engineering, June 2007

SERVICE

- Academic Editor: PLOS ONE
- Data Science Africa (DSA) Organising Committee 2015-present: I organised the inaugural Data Science Africa workshop at Dedan Kimathi University of Technology (DeKUT) in Nyeri, Kenya. Program Chair DSA 2017 and General Chair DSA 2018.
- Member of the Kenya Education network (KENET) special interest group on engineering education and research, 2014-to present.

RESEARCH GRANTS

- African Bird Club Grant: Testing the feasibility of an acoustic monitoring system for monitoring trends in species richness of forest birds in an important bird area, GBP 1,916.
- ESRC Grant: Co-convener on the project "Digital Development: Leveraging Data Science and Digital Participatory Practice for Development Impact", 2017-2018. PI Prof. Dorothea Kleine, University of Sheffield
- Kenya Education Network Mini Grant : Re-imagining Electrical Engineering Education Using The Raspberry Pi, USD 10,000.

Teaching

- Dedan Kimathi University of Technology: Digital Signal Processing, Signals and Systems, Artificial Intelligence, Circuit Theory
- **Drexel**: Digital Logic Design, Probability and Random Variables, Fundamentals of Deterministic and Statistical Digital Signal Processing

RECENT PUBLICATIONS

- D. M. Memeu, S. A. Merenga, and C. wa Maina, "Photoacoustic Sensing in Tissue Using Optical Scattering Modulation," In *IEEE Africon 2017*, Cape Town, South Africa.
- 2. C. wa Maina, "IoT at the Grassroots Exploring the Use of Sensors for Livestock Monitoring," In *IST-Africa 2017*, Windhoek, Namibia.
- 3. C. wa Maina, D. Muchiri, and P. Njoroge "A Bioacoustic Record of a Conservancy in the Mount Kenya Ecosystem". Biodiversity Data Journal, (4), 2016.
- 4. C. wa Maina, "Cost Effective Acoustic Monitoring of Bird Species," In *Interspeech* 2016, San Francisco, USA.
- 5. C. wa Maina, A. Muhia, and J. Opondo "A Low Cost Laboratory for Enhanced Electrical Engineering Education," In *IST-Africa 2016*, Durban, South Africa.
- 6. C. wa Maina, "Audio Diarization for Biodiversity Monitoring," In *IEEE Africon* 2015, Addis Ababa, Ethiopia.
- 7. C. wa Maina, "Bioacoustic Approaches to Biodiversity Monitoring and Conservation in Kenya," In *IST-Africa 2015*, Lilongwe, Malawi.
- 8. C. wa Maina, A. Honkela, F. Matarese, K. Grote, H. G. Stunnenberg, G. Reid, N. D. Lawrence, and M. Rattray, "Inference of RNA Polymerase II Transcription Dynamics from Chromatin Immunoprecipitation Time Course Data," *PLoS Comput Biol* 10(5): e1003598. doi:10.1371/journal.pcbi.1003598 2014 arXiv:1303.4926 [q-bio.QM]
- Ciira wa Maina and John MacLaren Walsh. "Joint Speech Enhancement and Speaker Identification Using Approximate Bayesian Inference," *IEEE Transactions on Audio, Speech, and Language Processing*, vol. 19, no. 6, pp. 5491 – 5510, Aug. 2011.

TECHNICAL SKILLS

Programming: Python, C, C++