Rahman Sanya April 2019

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Current Occupation

I am currently pursuing PhD in Computer Science at Makerere University, Uganda.

My research involves applying Convolutional Neural Networks (CNN) to modeling and analysis of human infectious disease patterns . In this study our goal is to integrate multiple and diverse digital data sources including housing density (satellite imagery as proxy), socio-economic wellbeing, human mobility (mobile phone data as proxy), energy sources, and access to healthcare for purpose of predicting spatial disease pattern. We are deploying both unimodal and multimodal CNN architectures in this research.

Knowledge & Skills

Programming and Scripting Languages: Java, C++, PHP, JavaScript, Python, R.

Computer Networking, system administration (Linux), databases (open source), information security management, and digital forensics.

Geographic Information Systems (GIS): QGIS.

Education & Training

2015	Diploma in ICT & Pedagogical Development (LIFE Academy, Sweden)
2006	MSc Computer Science (Makerere University)
2003	Postgraduate Diploma in Education (Islamic University in Uganda)
2001	BSc Chemistry and Biology (Islamic University in Uganda)

Work Experience

I have worked mostly in academia at different institutions of higher learning in Uganda including Uganda Martyrs University, Uganda Management Institute, and currently at Makerere University.

I have taught different courses at undergraduate and postgraduate level including Information Security Management, Electronic Commerce, Data Communication and Computer Networks, Linux

System Administration, and Decision Support Systems. I have also supervised tens of undergraduate and postgraduate students' graduation projects to completion.

Research Interests

Application of machine learning, computer vision, and data science methods to problems in public health, health-care, commerce, humanitarian work, and education in a developing country setting. Others include information security, privacy, and digital forensics. Emerging information and communication technologies in developing countries.

Publications & Workshops

Conference Proceedings

R. Sanya and E. Mwebaze. (2018) Using socio-economic wellbeing to predict geospatial epidemic intensity in a developing country setting. 21st AGILE Conference on Geospatial Technologies, Lund, Sweden June 12th – 15th, 2018. https://agile-online.org/conference/proceedings/proceedings-2018.

R. Sanya & M. Mubangizi. (2016) Using mobile phone data to study dynamics of rural-urban mobility. IEEE International Conference on Data Science & Engineering, Kochi, India, 2016. ieeexplore.ieee.org/xpl/mostRecentIssue.jsp?punumber=7807432&filter=issueId%20EQ%20%227823929%22&pageNumber=2.

Workshop Presentations

R. Sanya and E. Mwebaze. 2018. Mapping spatial housing patterns using Deep Neural Networks and remote sensing data. NeurIPS 2018 Machine Learning for the Developing World Workshop, 32nd Conference on Neural Information Processing Systems (NeurIPS) , Montreal, Canada, December 8th, 2018. arxiv.org/abs/1812.10398.

R. Sanya. (2017) Using spatial features of human settlement to predict epidemic properties. Data Science Africa 2017 Workshop www.datascienceafrica.org/dsa2017/, Arusha Tanzania.

R. **Sanya.** (2017) Privacy and information security awareness among users of personal mobile devices in higher education in Uganda. UMU 8th Annual Research Conference. January 25th, 2017, Uganda Martyrs University, Nkozi, Uganda.

Referees

Contact information for referees may be availed on request