CONVERGING BLOCKCHAIN AND NEXT-GENERATION ARTIFICIAL INTELLIGENCE TECHNOLOGIES TO DECENTRALIZE AND ACCELERATE BIOMEDICAL RESEARCH AND HEALTHCARE

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Abstract - The increased availability of digital healthcare data introduces new challenges both in data analysis and management. To speed up the biomedical research, new technologies are needed. To identify the outlook of next-generation artificial intelligence technologies and blockchain for integration on healthcare systems, we highlight recent advances in machine learning (deep learning in particular) for healthcare data analysis and drug discovery and also describe blockchain technology as a tool for data management. We discuss discriminative and generative approaches in deep learning and present considerations in the transfer learning techniques, including one and zero-shot learning. Our goal is to introduce emerging strategies that have a potential to integrate and decentralize biomedical data and advance health sciences.

Keywords - Artificial Intelligence, Deep Learning, Data Management, Blockchain, Digital Health, Health Data Marketplace

BIOGRAPHY

Iraneus Ogu heads the Africa Blockchain Artificial Intelligence for Healthcare Initiative at Insilico Medicine, Inc. He is also currently a researcher at the University of Lagos where his research focuses on Aging and Longevity interventions. In addition to tech developments, he also has a background in Biochemistry and Microbiology from the University of Nigeria and Pharmaceutical Sciences from the University of Greenwich where his research focused on controlled-release dosage forms.