ECU COLLEGE OF ENGINEERING AND TECHNOLOGY

Seminar

Department of Computer Science

Developing an Intelligence Augmentation System for Rare Diseases

Abstract. Rare diseases represent at least 7000 distinct conditions. Developing effective strategies for rare diseases is a significant scientific and clinical challenge. Our hypothesis is that by fusing structured and unstructured data, applying filters for specificity and context, and leveraging machine learning, we can strengthen the identification, diagnosis, and treatment of these individuals—to improve healthcare for NC citizens while focusing resources to contain costs. The tools of data science will provide a framework for identifying potential relationships between known but often siloed information regarding cell biology or disease manifestation. To address multiple challenges in data science of rare diseases, we propose to develop the "Rare Disease Infohub", which will utilize data to map patient conditions and disease phenotypes onto the underlying biological mechanisms at the cellular and subcellular levels. The Infohub will also embed analytical tools and models to add value of data- and knowledge-driven support to multiple efforts in NC in the area of rare diseases.

Biography. Dr. Michael Kowolenko, Ph.D. is currently the Director of the Institute of Next Generation Computing, Industry Fellow in the Center of Innovation Management Studies, and Research Professor in the Department of Computer Science at North Carolina State University. His research and teaching activities focus on models of integrating data analytics in critical thinking and decision-making. He has consulted with and instructed multiple companies and government agencies in the use of analytics in business decision making.

Dr. Michael Kowolenko
Managing Director of ITng & Principal Research Scholar
NC State University

mdkowole@ncsu.edu
https://www.csc.ncsu.edu/people/mdkowole

Friday November 17, 2017
Time: 2:00 – 2:50pm
Room: Bate Building 1003

Contact: Dr. Kamran Sartipi
Dept. of Computer Science, ECU
www.cs.ecu.edu/sartipi/CSseminar/