UAA College of Engineering
UNIVERSITY of ALASKA ANCHORAGE

UAA Professional Development Seminar Series

AI in Medical Applications with Small Datasets and Limited Labels

Presented by Syed Muhammad Anwar, Associate Professor, UET Taxila

Recent advancements in machine learning are impacting the future of medical applications. The convergence of data science, radiology, computer science and clinical knowledge is opening up new avenues of research and innovation. We are finding ways to solve clinical problems using automated systems, which never existed before. While we now have an abundance of such methods, the question we still face is how many of these would be able to translate (or are not appropriate) to actual clinical practice. The presentation willl walk through a wider spectrum of medical image analysis problems benefiting from such advancements in artificial intelligence. We will also explore a large area of clinical practice that relies on 1-dimensional physiological data—such such as electroencephalography and electrocardiography—and which still remains to take full benefit of these advancements. In summary, the presentation will highlight the building blocks for making the development of automated and intelligent systems fit for clinical practice.

Syed Muhammad Anwar received a BSc. in Computer Engineering with Honors from University of Engineering and Technology (UET) Taxila, Pakistan in 2005, and a MSc. in Data Communications with Distinction and PhD. in Electronic and Electrical Engineering from the University of Sheffield, UK in 2007 and 2012 respectively. He is serving as an Associate Professor at Department of Software Engineering, UET Taxila. Currently, he is at the Center for Research in Computer Vision, University of Central Florida, on a Fulbright Fellowship. His research interests include machine learning, medical imaging, and human/computer interaction. He has authored more than 70 peer reviewed articles and serves as Editor and reviewer at prestigious publications such as IEEE Access, IEEE JBHI, Nature Scientific Report, and PLOS One, and has received research grants from various organizations to support his research.

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