

Seminar



AI for Medical Imaging Informatics - Where have We Missed Explainability?

Abstract. When we consider AI for healthcare, infectious disease outbreak is no exception. The talk will begin with machine learning models that help in not only predicting but also detecting abnormalities due to infectious diseases such as Pneumonia, TB, and Covid-19. I will open my talk with infectious disease prediction models and unexploited data, where we will learn that predictive analytical tools are close to garbage-in garbage-out (at least for Covid19). I will then cover multimodal learning and representation based on both shallow learning (handcrafted features) as well as deep learning (deep features) that typically apply on medical imaging tools. Like in computer vision, I will open an obvious question, how big data is big in addition to common techniques: data augmentation and transfer learning. With all these facts, as most of models are limited to education and training, I will end up my talk with the statement "ML innovation should not be limited to building models." What we need is #ExplainableAI in #ActiveLearning framework.

Biography. Professor KC Santosh, Ph.D. is Chair of the Department of Computer Science at the University of South Dakota (USD). He also serves International Medical University as an Adjunct Professor (Full). Before joining USD, he worked as Research Fellow at the US National Library of Medicine (NLM), National Institutes of Health (NIH). He was Postdoctoral Research Scientist at the Loria Research Centre (with industrial partner, ITESOFT (France)). He also served as a research scientist at the INRIA Nancy Grand Est research centre, France where he has received his PhD diploma in Computer Science - Artificial Intelligence. He has demonstrated expertise (with 10 books, 220+ research articles, and 20+ journal edited issues, as of Dec. 2021) in artificial intelligence, machine learning, pattern recognition, computer vision, image processing, and data mining with applications such as medical imaging informatics, document imaging, biometrics, forensics, and speech analysis. His research projects are funded (of more than \$2m) by multiple agencies such as SDCRGP, Department of Education, National Science Foundation, and Asian Office of Aerospace Research and Development. He is the proud recipient of the Cutler Award for Teaching and Research Excellence (USD, 2021), the President's Research Excellence Award (USD, 2019), and the Ignite from the U.S. Department of Health & Human Services (2014). More info.: <http://kc-santosh.org>



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Friday March 25, 2022

Time: 1:00 - 2:00pm

Microsoft Teams

[Click here to join the meeting](#)

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