UNIVERSITY OF CENTRAL FLORIDA

CENTER FOR RESEARCH IN COMPUTER VISION

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"Towards Trustworthy AI in Medical Image Analysis"

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ABSTRACT

Despite advancements in AI models for medical image analysis, ensuring their trustworthiness remains a challenge. Accuracy, interpretability, robustness, and generalizability are critical for gaining the confidence of healthcare professionals and other stakeholders. This talk focuses on AI model interpretability and generalizability, key aspects of trustworthiness, by exploring the following core questions: 1) Are explainable AI methods reliable, and can we quantitatively measure that? 2) Can we predict when a model might fail to generalize, and how can we enhance its generalizability? 3) How can pre-trained medical Vision-Language Models be adapted to new diseases with limited data? These questions are pivotal in advancing trustworthy AI applications in healthcare.

BIOGRAPHY

Dr. Pingkun Yan is the P.K. Lashmet Career Development Chair, Associate Professor of Biomedical Engineering at Rensselaer Polytechnic Institute. Before joining Rensselaer in 2017, he worked for Philips Research as a Senior Scientist at the NIH Clinical Center for clinical collaboration. Dr. Yan was a member of the Computer Vision Lab at UCF from 2005 to 2007. His research focuses on artificial intelligence and machine learning with their applications in healthcare informatics and image-guided intervention. His research has resulted in over 100 publications in peer-reviewed journals and received more than 11,500 citations. He is a recipient of the NSF CAREER award and NIBIB Trailblazer award, and several best paper awards from international journals and conferences. He serves as an associate editor of multiple international journals and is a senior member of the National Academy of Inventors (NAI) and the Institute of Electrical and Electronics Engineers (IEEE).