Computational Imaging in Medicine: A Signal Processing and Machine Learning Perspective – From Modeling to Clinical Impact

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12:00 – 1:00 PM
BMI Classroom 4004
Woodruff Memorial Research Building

or

Join us on Zoom link:
https://zoom.us/j/91348452586
Meeting ID: 913 4845 2586

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Abstract: Computational imaging has a rich history of using tools in the areas of signal processing, imaging physics, and machine learning to extract clinically relevant information from data acquired using medical imaging systems in order to support and improve the diagnosis, and therapy planning and follow-up of various diseases. The emergence of artificial intelligence has further expanded the footprint of this field. In this talk, I will present examples of research in our lab that will demonstrate how, by using tools from these areas, we are able to develop innovative solutions for addressing clinically impactful problems.

Bio: Sundaresh Ram received the B.E. degree in Electrical and Electronics Engineering from Anna University, Chennai, India in 2007 and the M.S. and the Ph.D. degrees in Electrical and Computer Engineering from The University of Arizona, Tucson, AZ in 2010 and 2017, respectively. After postdoctoral research work in the Schools of Electrical and Computer Engineering and Biomedical Engineering at Cornell University and Departments of Radiology and Biomedical Engineering at the University of Michigan, he joined the faculty in the Department of Radiology and the Department of Biomedical Engineering at the University of Michigan, Ann Arbor, MI, in 2023.

Dr. Ram joined the faculty at Emory university, Atlanta, GA, as an assistant professor in the Departments of Radiology & Imaging Sciences, Biomedical Engineering, and Medicine in 2024. His research interests include multidimensional signal processing/analysis, computational imaging, pattern recognition, machine learning, information theory, and inverse problems, along with applications of these methods to various imaging technologies in conventional and medical imaging, biological sciences, and data science. He is a member of IEEE, SIAM, SPIE, ATS, AACR, and RSNA.