Artificial Intelligence Initiative (Aii)

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Invited Speaker

Dr. Yu Tian, University of Pennsylvania

"Towards Trustworthy AI: From Computer Vision to Medical Imaging"

Thursday, November 14, 2024 • 11:00AM • HEC 101A • Zoom

Abstract:
In today's world, deep neural networks drive machine learning systems that pervade every aspect of our daily lives. Yet, their deployment often raises concerns about trustworthiness, including safety, fairness, and other issues. This is particularly important and concerning in adapting AI systems in medicine. This talk will delve into the trustworthiness of machine learning algorithms, focusing on two main areas: 1) Developing machine learning systems that can detect anomalies or Out-of-Distribution (OOD) samples across various domains, from computer vision to medical imaging. We will highlight the unique challenges when adapting these systems from general computer vision applications to those specific to medicine; and 2) Enhancing fairness in algorithms to reduce biases across different demographic groups, including race, ethnicity, and gender. We will address the specific fairness challenges that arise within the field of medical imaging.

Bio:
Yu Tian is a postdoctoral researcher at the University of Pennsylvania. Prior to joining UPenn, he was a postdoctoral research fellow at Harvard University. He earned both his Ph.D. and his BSc with First Class Honours in computer science from the Australian Institute for Machine Learning (AIML) at the University of Adelaide. His primary research interests lie in computer vision and medical image analysis, focusing on trustworthy AI tasks such as abnormality and rarity learning, out-of-distribution detection, fairness learning, interpretability, and federated learning, with an emphasis on their biomedical applications. He has published over 35 papers in top computer vision and medical imaging conferences and journals, including CVPR, ICCV, ECCV, ICLR, AAAI, MICCAI, TMI, and MedIA. His research has received over 1,500 citations (by October 2024).