Biomedical Informatics Grand Rounds

Wednesday, February 21, 2024

3:00 pm – 4:00 pm

Advancing Healthcare through Generative AI:
Theory and Practice

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Remote Access
Join Zoom Meeting
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Meeting ID: 956 1719 7636 Passcode: 924293

Bio: Dr. Yuan Xue, currently an Assistant Professor at The Ohio State University, specializes in the intersection of computer vision and deep learning, with a particular emphasis on biomedical image analysis with generative models and data-efficient learning. Dr. Xue obtained his PhD in Information Sciences and Technology from Pennsylvania State University in 2021. Prior to joining OSU, he was a postdoctoral researcher at Johns Hopkins University. In his research, Dr. Xue is dedicated to integrating transformative AI technologies to foster innovations across various interdisciplinary fields. His recent work includes the development of domain-specific foundation models and advancements in multi-modal learning. In the realm of clinical medicine, Dr. Xue's research aims to revolutionize diagnostic and prognostic tools through cutting-edge AI. He has authored over 30 publications in prestigious venues within computer vision, artificial intelligence, and medical image analysis sectors.

Abstract: This seminar presents an in-depth analysis of generative AI's transformative impact on healthcare, focusing on its application in improving diagnosis and treatment. Beginning with an overview of generative AI models, the talk will later highlight their role in addressing data scarcity and variability in clinical settings. Central to the discussion is my research on developing methods that use generative models to create synthetic training images, enhancing the generalizability of machine learning models to handle the potentially scarce and noisy data in clinical practice. Additionally, the seminar will explore the integration of Large Language Models (LLMs) and multi-modal approaches in developing more effective, reliable AI tools for healthcare. The aim is to provide a clear, scientifically grounded perspective on how generative AI is reshaping healthcare practices and research.

Educational Objectives:

1. An introduction about generative AI, its current capabilities and future impact within the healthcare field.
2. Learn more about applications of generative AI within the clinical setting, specifically in diagnosis and treatment.
3. Overview of how these models can be used to generate synthetic images used for model training downstream.
4. An exploration of a current cutting edge topic of Large Language Models and its development within the healthcare field.

Disclosure Statement: The faculty and planners have no relevant financial relationship with ineligible companies, whose primary business is producing, marketing, selling, reselling, or distributing health care products used by or on patients.

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