

# Seminar



## Computer Vision Technologies for Medical Image Processing: Idiopathic Pulmonary Fibrosis Screening

**Abstract.** Deep Learning Methods are variants of AI. These have been used to identify patients at risk of developing specific diseases. For medical image analysis, computer vision methods such as segmentation, object detection, and classification help automate radiological tasks and help advance radiology. Specifically, computer-aided AI systems have identified patients with cancer effectively by detecting tumors. In this talk, I will walk you through screening idiopathic pulmonary fibrosis (IPF) patients using AI methods that are based on CT-Scan and chest X-ray image data. Finally, I will talk about the level of adoption of AI in medicine, its strengths and limitations, and whether AI can replace a doctor.

**Biography.** Dr. Quan Do, Ph.D., is an Assistant Professor in the Radiology department at Mayo Clinic in Rochester, Minnesota. Dr. Do received her Ph.D. from the New Mexico State University. Her Ph.D. research is at the intersection of Computer Science and Nursing. Her current research focuses on adopting computer vision technologies and Deep Learning methods to screen patients with different conditions, predict the progression of diseases, and automate clinical tasks. Her primary research at the Mayo Clinic is to integrate AI technologies to improve the performance of the **Computer-Aided Lung Informatics for Pathology Evaluation and Rating (CALIPER)** software, which is an image analysis tool for the lungs developed at the Mayo Clinic. Specifically, her work involves pulmonary segmentation of CT-Scans and classification of chest X-rays for evaluating pulmonary fibrosis for patients with idiopathic pulmonary fibrosis (IPF) and post-COVID patients.



**Dr. Quan Do**  
Assistant Professor  
Radiology Department  
Mayo Clinic  
Rochester, MN

[Do.Quan@mayo.edu](mailto:Do.Quan@mayo.edu)  
<https://uofsa.edu/team/dr-quan-do/>

Friday Apr 28, 2023  
Time: 2:00 - 3:00pm  
**Room: Bate 1007**

**Microsoft Teams**  
[Click here to join the meeting](#)

Contact: Dr. Kamran Sartipi  
Dept. of Computer Science, ECU  
[www.cs.ecu.edu/sartipi/CSseminar/](http://www.cs.ecu.edu/sartipi/CSseminar/)