

## **Artificial Intelligence for Healthcare**

### **Abstract:**

In this lecture first we will discuss current trends in Artificial Intelligence (AI). In addition to the fundamentals of AI, we will demonstrate the importance of using Deep Learning (DL), Graph neural network (GNN), continuous learning and explainable AI. While DL has been used very successfully for image analysis, GNN are being used extensively for unstructured datasets including biological datasets available in the form of graphs containing the interaction between genes, drugs, diseases etc.

AI is used in healthcare with the goal for betterment in therapeutic as well as early diagnosis of diseases. Moreover, generally same therapies are used for patients having similar disease. However based on the biological conditions of a patient, use of specific therapy is the key in precision medicine. In the second part of the lecture we will discuss how DL and GNN techniques can be used for developing improved healthcare system including precision medicine. The importance of continuous learning and explainable AI will also be discussed to address the practical challenges in medical expert system.