



이름: 김성태

직위: 조교수

소속: 경희대학교 컴퓨터공학부

강연제목: Concept-based Interpretation for Understanding Chest X-ray Analysis Models

Abstract: Deep neural networks have shown promising results in various applications, including medical diagnosis. The automatic diagnosis of thoracic pathologies on chest x-rays is also one of the successful areas where deep networks show effectiveness. The black-box nature of deep learning is still a major bottleneck which makes it difficult to use deep learning-based diagnosis models in a real-world clinical setting. For explaining the prediction of the model, recent studies show feature attribution studies that use saliency maps for pointing important features out. However, these approaches lack semantic interpretation of model behavior which is related to a high-level understanding of the model for human experts. In this presentation, Prof. Seong Tae Kim will present a way to conceptually explain the model. First, the concepts are associated with internal units of the network by using external data. These concepts are used for interpreting different chest X-ray models. Moreover, to conceptually explain a prediction of the model, a semantic attribution scheme is introduced.

Brief Biosketch

2021 ~ 현재: 경희대학교 컴퓨터공학부 조교수

2019 ~ 2021: Postdoctoral Researcher at Technical University of Munich

2015: Visiting Researcher at University of Toronto

2022 ~ 현재: Associate Editor of IEEE Transactions on Circuits and Systems for Video Technology

2022: Area Chair of International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI 2022)