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Yan Wang is currently a Zijiang Young Scholar (Professor) at the School of Communication and Electronic Engineering at East China Normal University. She received the Ph.D. degree in Electrical and Electronic Engineering from Nanyang Technological University, Singapore. She was a Postdoc Researcher with Professor Alan Yuille at Computer Cognition, Vision, and Learning Research (CCVL) Group, John Hopkins University, USA. Before joining CCVL group, she was a Research Scholar with the Computational Biology and Cognitive Science (CBCS) Laboratory, The Ohio State University, USA. She has published more than 30 papers in the fields of medical image analysis and computer vision, including IEEE Trans. PAMI, IEEE Trans. Image Processing, IEEE Trans. Medical Imaging, IEEE Trans. Multimedia, Medical Image Analysis, CVPR, ICCV and MICCAI. She served as a guest editor for EURASIP Journal on Image and Video Processing special issue on 'Modeling and Representation for Big Visual Data'.

Speech Title: "Organ and Tumor Segmentation in CT Images"

Abstract: Segmenting a variety of organs, including big & tiny targets (e.g., pancreatic duct) and tumors (e.g., pancreatic tumors) from CT images are essential for many clinical applications such as computer-aided diagnosis and computer-aided surgery. But automatic organ and tumor segmentation are challenging problems, due to issues such as poor contrast, noise and complicated background. In this talk, I will first introduce our work on abdominal multi-organ segmentation, which applied the proposed organ-attention networks to 2D views of the 3D CT volume, and combined the output estimates by statistical fusion exploiting structural similarity. Then I will introduce our geometry-aware method for segmenting tubular structures in CT images, and show that our method provides a geometrical measurement for a tubular structure, which is important for clinical diagnosis, i.e., finding pancreatic ductal adenocarcinoma (PDAC) tumors. Finally, I will introduce our work for PDAC prediction under partially supervised setting, where cheap image-level annotations are provided for all the training data, and the costly per-voxel annotations are only available for a subset of them. We proposed an Inductive Attention Guidance Network (IAG-Net) to jointly learn a global image-level classifier for normal/PDAC classification and a local voxel-level classifier for semi-supervised PDAC segmentation.