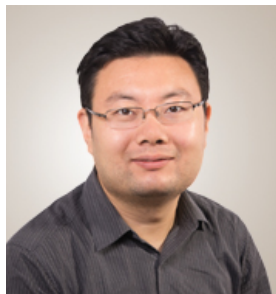


Seminar Series

Spring 2021: Frontier Topics in Vision and Language

<https://asu-active-perception-group.github.io/seminar/>



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Some Understandings and New Designs of Convolutional Networks

Wednesday, Jan 27, 2021, 16:30 MST

Via Zoom: <https://asu.zoom.us/j/89817732811>

Abstract:

In this talk, we will be talking about some of our recent work in understanding and creating new architectures for convolutional networks, which have achieved great success in computer vision in the last decade but might be getting to a point that might require an overhaul to drive deep learning to a new level. We will start by summarizing our various endeavors on understanding the mechanisms of decision-making convolutional networks and visualizing those to the users. Afterwards, we would introduce our proposed PointConv that overcomes many limitations of traditional convolutional networks by allowing convolution to be applied on point sets that are distributed arbitrarily in a low-dimensional Euclidean space. Finally, we would introduce a new approach to better estimate uncertainty in neural networks, applicable to many scenarios such as outlier detection, adversarial robustness and better exploration in reinforcement learning.

Bio:

Fuxin Li is currently an assistant professor in the School of Electrical Engineering and Computer Science at Oregon State University. Before that, he has held research positions in University of Bonn and Georgia Institute of Technology. He had obtained a Ph.D. degree in the Institute of Automation, Chinese Academy of Sciences in 2009. He has won the NSF CAREER award, (co-)won the PASCAL VOC semantic segmentation challenges from 2009-2012, and led a team to the 4th place finish in the DAVIS Video Segmentation challenge 2017. He has published more than 50 papers in computer vision, machine learning and natural language processing. His main research interests are deep learning, video object segmentation, multi-target tracking, point cloud deep networks, adversarial deep learning and human understanding of deep learning.

Host: Shailaja Sampat, Chitta Baral, Yezhou Yang