Title: Human Perception Based-Contextual Representation in Video Understanding

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Monday, October 21, 10:00 am Central Time
Virtual Zoom Meeting:

https://zoom.us/j/9762699678?pwd=RUp5ZmN3cHUyQ1FvUExVQjVsc1hVUT09
Meeting ID: 976 269 9678
Passcode: K91Bwy

LECTURE ABSTRACT

Abstract: Video understanding is a growing field and a subject of intense research, which includes many interesting tasks, e.g., action detection, action recognition, video captioning. One of the most challenging problems in video understanding tasks is video representation due to the long and complicated temporal structure of unconstrained videos. As we observed, humans typically perceive a video through the interactions between three main factors, i.e., the actors, the relevant objects, and the surrounding environment. Therefore, it is very crucial to design a contextual video representation extraction that can capture each of such factors and model the relationships between them. In this talk, we discuss on incorporating the human perception process into modeling actors, objects, and the environment. We choose video paragraph captioning and temporal action detection to illustrate the effectiveness of human perception based-contextual representation in video understanding.

SPEAKER BIOSKETCH

Dr. Le is the director of the Artificial Intelligence and Computer Vision Lab and an Assistant Professor in the Department of Computer Science & Computer Engineering at the University of Arkansas. She was a research associate in the Department of Electrical and Computer Engineering (ECE) at Carnegie Mellon University (CMU) in 2018-2019. She received a Ph.D degree in ECE at CMU in 2018, ECE Master degree at CMU in 2015, CS Master Degree at the University of Science, Vietnam in 2009 and CS Bachelor degree at the University of Science, Vietnam in 2005. Her current research interests focus on Image Understanding, Video Anaslysis, Computer Vision, Robotics, Artificial Intelligence (Machine Learning, Deep Learning, Reinforcement Learning), Biomedical Imaging. Dr. Le is currently an Associate Editor of Elsevier Machine Learning with Applications, technical chair of MICAD 2022, and a Program Chair of Asilomar 2022. She co-organized the Deep Reinforcement Learning Tutorial for Medical Imaging at MICCAI 2018, Medical Image Learning with Less Labels and Imperfect Data workshop at MICCAI 2019, 2020, 2021, Visual Detection, Recognition and Prediction at Altitude and Range at ICCV 2022. Dr. Le is an instructor lead of the Google Machine Learning Bootcamp 2021, 2022.