

The 16th Asian Conference on Computer Vision (ACCV2022)

Workshop Timetable

Dec 4, 2022

WORKSHOP		Computer Vision Technology in Electric Power System	
ORGANIZERS		Wenqing Zhao, Yongjie Zhai, Zhenbing Zhao Research Center of Power Computer Vision , North China Electric Power University	
8:30-9:30			
SPEAKER		CONTENT	
	<p>Yuanpeng Tan, deputy director and senior engineer of the Artificial Intelligence Application Research Institute of China Electric Power Research Institute, mainly focuses on electrical information technology, neural network, pattern discovery and other professional directions. Now he is the external master's supervisor at North China Electric Power University and Renmin University of China, the director of IEEE PES Power System Communication and Network Security Technical Committee Artificial Intelligence Technology Subcommittee, the secretary of IEEE PES Power System Communication and Network Security Technical Committee Big Data Technology Subcommittee, the director of IEEE PES Substation Technical Committee Intelligent Patrol Inspection Technology Subcommittee, and the secretary of Power Transmission and Distribution Group of IEEE PES Artificial Intelligence Special Committee.</p>	<p>Title: Research on intelligent analysis of electric power equipment inspection image driven by data and knowledge</p> <p>This speech analyzed the current situation of intelligent analysis of power equipment inspection images of power companies, and summarized the difficulties in business applications. In view of the above difficulties, an intelligent analysis technology of electric power equipment inspection image driven by data and knowledge. The speech also outlined the application cases of intelligent management and control of power transmission and transformation equipment based on the above technologies, and discussed the hot topics and feasible ideas of follow-up research.</p>	
9:30-10:30			
SPEAKER		CONTENT	
	<p>Pengfei Zhu is an associate professor with Tianjin University. The main research direction is environment perception and evolutionary learning for intelligent unmanned systems. He has published more than 50 CCF A and IEEE Transactions papers. He won the most influential 15 papers of CVPR 2020, Excellent Youth Award of artificial intelligence.</p>	<p>Title: VisDrone—Robust Environment Perception and Evolutionary Learning for Intelligent Drones</p> <p>Intelligent unmanned systems rely on multi-sensors for robust perception of the surrounding environment. We built a large-scale drone based visual data platform, VisDrone, including visible light data, dual-light data, and multi-drone collaborative data, covering tasks such as object detection, object tracking, crowd</p>	

<p>gence, and the first prize of natural science of Heilongjiang Province. He presided over more than 10 projects including Outstanding Young Scholars of the National Natural Science Foundation of China. He has built a large-scale UAV vision data platform VisDrone, and served as the director of ECCV 2018, ICCV 2019, ECCV 2020 and ICCV 2021 UAV vision workshops and challenges.</p>	<p>analysis, and collaborative perception. Based on the VisDrone platform, we proposed a space-time neighbor-aware network and a graph-regularized optical flow network for spatio-temporal data modeling, an uncertainty-aware fusion network and a task-driven multi-modal fusion network for RGBT fusion, an agent sharing network and graph matching network for multi-drone detection and tracking.</p>
10:30-11:30	
SPEAKER	CONTENT
<div data-bbox="185 622 395 880">  </div> <p>Jian Cheng is a professor of Institute of Automation, Chinese Academy of Sciences. He received the B.S. and M.S. degrees in Mathematics from Wuhan University in 1998 and 2001, respectively. After that, he got Ph.D degree in pattern recognition and intelligent systems from Institute of Automation in 2004. His current major research interests include deep learning, computer vision, AI chip design, etc. He have authored or co-authored more than 100 academic papers published on top journals or conferences, such as IEEE TPAMI/TIP/TNNLS/TCAD/TMM, JMLR, NeurIPS, ICML, CVPR, ICCV, ECCV, AAAI, DATE. He serves as associate editor for Pattern Recognition journal, IET Computer Vision.</p>	<p>Title: Lightweight Deep Learning for the Operation and Maintenance of Electric Power Equipment</p> <p>Intelligent robots have been widely used in the operation and maintenance of electrical equipment. However, due to the limited computing resource on the robot, it is impossible to run large-scale intelligent algorithms on devices. It is challenging issue to design lightweight artificial intelligence algorithms for robots. This talk mainly introduces how to realize lightweight deep learning models through model compression technology and enable intelligent operation and maintenance of power equipment. I will firstly introduce the classification of model compression methods; Then, I will present several important quantization methods for model compression; Finally, I will show our achievements in transmission line inspection.</p>