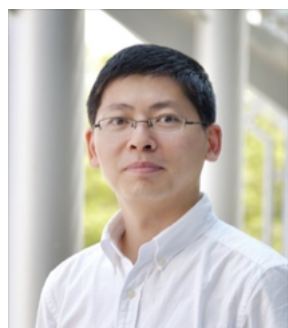


8 Dec 2023, Invited Talk @ National Taipei University

Title: The Power of Retrieval for Video Analysis on Human Behavior Understanding

Speaker: Dr. Jianquan Liu, NEC Corporation, Japan

Abstract: In this talk, Dr. Liu will introduce an industrial level framework of utilizing the power of retrieval techniques for video analysis on human behavior sensing and understanding. This talk will mainly demonstrate a series of selected research achievements that contributed to both academia and industry in our framework. Our framework is composed of a series of cutting-edge technologies that sense the data generated in the real world, transform them into readable, visible, and modellable digital forms, and finally analyze these digital data to understand the human behavior. For example, such cutting-edge technologies include the human sensing by traditional cameras [MM'14, MM'16], 360 cameras [MM'19, WACV'20, ICIP'21], and microwave sensors [MM'20], the action recognition [MM'19, WACV'20, MM'20, ICIP'21], the object tracking [MIPR'19, BigMM'19], the human object interaction [CBMI'19], the scene recognition [MM'19], the behavioral pattern analysis [MM'16, ICMR'18 MIPR'19], the retrieval [MM'14, MM'16, MM'17, ICMR'18, CBMI'19, ICASSP'21] and the visualization [SIGGRAPH'16, ICMR'18], towards the fully understanding of human behavior. These works will be introduced in the way of a general overview with interactive technical demos and interesting insights, for human behavior sensing and understanding by adopting effective processing techniques and designing efficient algorithms. Finally, Dr. Liu will pick up and share some challenging issues and directions for the realization of digital society in the future.



Biosketch: Jianquan Liu is currently the Director/Head of Video Insights Discovery Research Group at the Visual Intelligence Research Laboratories of NEC Corporation, working on the topics of multimedia data processing. He is also an adjunct professor at Graduate School of Science and Engineering, Hosei University, Japan. Prior to NEC, he was a development engineer in Tencent Inc. from 2005 to 2006, and was a visiting researcher at the Chinese University of Hong Kong in 2010. His research interests include high-dimensional similarity search, multimedia databases, web data mining and information retrieval, cloud storage and computing, and social network analysis. He has published 70+ papers at major international/domestic conferences and journals, received 30+ international/domestic awards, and filed 70+ PCT patents. He also successfully transformed these technological contributions into commercial products in the industry. Currently, he is/was serving as the Industry Co-chair of IEEE ICIP 2023 and ACM MM 2023; the General Co-chair of IEEE MIPR 2021; the PC Co-chair of IEEE IRI 2022, ICME 2020, AIVR 2019, BigMM 2019, ISM 2018, ICSC 2018, ISM 2017, ICSC 2017, IRC 2017, and BigMM 2016; the Workshop Co-chair of IEEE AKIE 2018 and ICSC 2016; the Demo Co-chair of IEEE MIPR 2019 and MIPR 2018. He is a member of ACM, IEEE, IEICE, IPSJ, APSIPA and the Database Society of Japan (DBSJ), a member of expert committee for IEICE Mathematical Systems Science and its Applications (2017-), and IEICE Data Engineering (2015-2021), and an associate editor of IEEE TMM (2023-), ACM TOMM (2022-), EURASIP JIVP (2023-), IEEE MultiMedia Magazine (2019-2022), ITE Transaction on Media Technology and Applications (2021-), APSIPA Transactions on Signal and Information Processing (2022-), and the Journal of Information Processing (2017-2021). Dr. Liu received the M.E. and Ph.D. degrees from the University of Tsukuba, Japan.