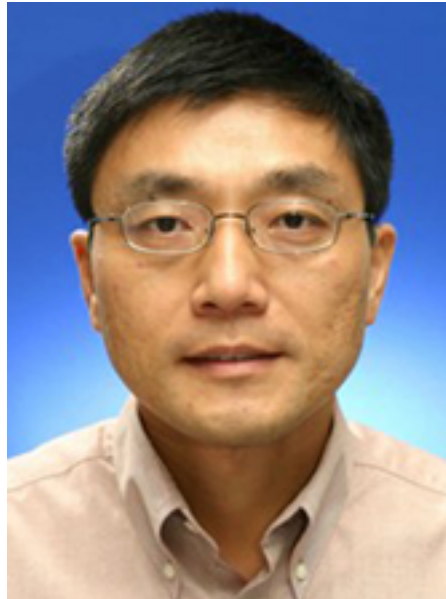


# Keynote Speakers II



Weisi Lin

## *“New Opportunities of Visual Representation for Machine Intelligence”*

**Abstract:** With the waves of AI, increasingly more visual signals are intended for machines (rather than humans) as the ultimate users. What opportunities may this shift bring for visual representation, e.g., to address the requirements of Video Coding for Machines (VCM), JPEG AI and beyond? In this talk, we will first discuss how to determine visual signal sensitivity toward machine intelligence (MI). MI-oriented models can be also developed for identity/privacy protection. Secondly, a possible paradigm change of visual representation is explored: intermediate, deep-learned visual features (instead of a whole image) can be the basic unit of representation for MI. This brings intelligence to the edge, facilitates edge-cloud collaboration, and leads to integration of signal representation and computer vision which have been separate processes for long.

**Short Bio:** Weisi Lin researches in intelligent image and video processing, computational perceptual signal assessment, and multi-modality/media modeling. He received his B.Sc and M. Sc from Sun Yat-Sen University, China, and Ph.D. from King's College, U.K. He is currently a Professor in School of Computer Science and Engineering, Nanyang Technological University, Singapore, where he also serves as the Associate Chair (Research).

He is a Fellow of IEEE and IET, and has been a Highly Cited Researcher 2019, 2020 and 2021. He has elected as a Distinguished Lecturer in both IEEE Circuits and Systems Society (2016-17) and Asia-Pacific Signal and Information Processing Association (2012-13), and given keynote/invited/tutorial/panel talks in 40+ international conferences. He has been an Associate Editor for IEEE Trans. Image Process., IEEE Trans. Circuits Syst. Video Technol., IEEE Trans. Multimedia, IEEE Signal Process. Lett., Quality and User Experience, and J. Visual Commun. Image Represent., and a Senior Editor in APSIPA Trans. Info. and Signal Process, as well as a Guest Editor for 7 special issues in different journals. He also chaired the IEEE MMTC QoE Interest Group (2012-2014); he has been a Technical Program Chair for IEEE ICME 2013, QoMEX 2014, PV 2015, PCM 2012 and IEEE VCIP 2017. He leads the Temasek Foundation Programme for AI Research, Education & Innovation in Asia, 2020-2025. He believes that good theory is practical, and has delivered 10+ major systems for industrial deployment with the technology developed.

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