

# Distinguished Seminar Series on Data Science & Artificial Intelligence

## Digital Human & Integrated Physical-Digital World

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China



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14:30 - 15:30 (HKT, UTC+8)

Online via Zoom

English

Please register at <https://polyu.hk/BSZoq>  
or scan the QR code



**All are welcome!**

### Abstract

With the rapid development of digital technologies such as AI, VR, AR, XR, and more importantly the almost ubiquitous mobile broadband coverage, we are entering an Integrated Physical-Digital World (IPhD), the tight integration of virtual world with the physical world. The IPhD is characterized with four key technologies: Virtualization of the physical world, Realization of the virtual world, Holographic internet, and Intelligent Agent. Internet continues its development with faster speed and broader bandwidth, and will eventually be able to communicate holographic contents including 3D shape, appearance, spatial audio, touch sensing and smell. Intelligent agents, such as digital human, and digital/physical robots, travels between digital and physical worlds. In this talk, we will describe our work on IPhD and especially digital human for this IPhD world. This includes: computer vision techniques for building digital humans, multimodal text-to-speech synthesis (voice and lip shapes), speech-driven face animation, neural-network-based body motion control, human-digital-human interaction, and an emotional video game anchor.

### About the Speaker

Zhengyou Zhang received the B.S. degree from Zhejiang University, China, in 1985, the M.S. degree from the University of Nancy, France, in 1987, and the Ph.D. degree in 1990 and the Doctorate of Science (Habilitation à diriger des recherches) in 1994 from the University of Paris XI, France. He is the Chief Scientist at Tencent, China, and is the Managing Director of Tencent AI Lab and Tencent Robotics X since March 2018. Before that, he was a Partner Research Manager with Microsoft Research, Redmond, WA, USA, for 20 years. Before that, he was a Senior Research Scientist with INRIA (French National Institute for Research in Computer Science and Control), France, for over 10 years. In 1996-1997, he spent a one-year sabbatical as an Invited Researcher with ATR, Kyoto, Japan. Dr Zhang is an ACM Fellow and an IEEE Fellow. He is the Founding Editor-in-Chief of the IEEE Transactions on Cognitive and Developmental Systems, is on the Honorary/Steering Board of the International Journal of Computer Vision and the Machine Vision and Applications, and serves or served as an Associate Editor for many journals. He received the IEEE Helmholtz Test of Time Award at ICCV 2013 for his paper published in 1999 on camera calibration, now known as Zhang's method. According to Google Scholar, his number of citations is over 63,000, and his h-index is 102.