**Feasibility of Integrated Photonic Chips for Neural Networks**

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Integrated photonic circuits (IPCs), also known as integrated optical circuits or photonic integrated circuits (PICs), are microchips that incorporate multiple photonic components to form a functional circuit. These circuits are designed to detect, generate, transport, and process light, enabling a wide range of applications. In recent years, IPC technology has made significant advancements and has been utilized in various fields such as quantum walk, machine learning, and boson sampling. Moreover, IPCs have emerged as a powerful technology that enables the integration of various photonic components into a single chip. In this talk I will focus on some recent results on the applications of IPC to optical neural network, autoencoders and other applications.

**Short Bio:**

**LC Kwek is a Principal Investigator (PI) at the Center for Quantum Technologies, National University of Singapore and Professor of Education and Engineering, National Institute of Education, Singapore. He is currently a co-Director of the Quantum Science and Engineering Centre at the Nanyang Technological University. Dr Kwek has published more than 300 publications with several papers in Nature Photonics, Nature Communications, Physical Review Letters, Review of Modern Physics, and so forth. He is the PI or co-PI for numerous projects totaling more than $41 million). He supervises more than 30 PhD students. He is also an elected Fellow of the American Association for the Advancement of Science, Institute of Physics (UK) and the Institute of Physics Singapore.**