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# When Computer Vision Meets RISC-V

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## Abstract:

The talk explores the intersection of Computer Vision (CV) and RISC-V, highlighting CV's role in enabling machines to interpret visual data through deep learning and pattern recognition, essential for applications such as object recognition and scene understanding. It introduces RISC-V as an open, flexible instruction set architecture widely adopted in embedded and high-performance systems. The presentation covers academic advances, including mixed-precision neural networks on RISC-V cores and decentralized machine learning frameworks for emerging RISC-V processors. From an industrial perspective, it discusses how RISC-V-powered computer vision systems are transforming manufacturing through quality control, robotic guidance, and edge AI for smart factories, emphasizing real-time processing, memory protection, and scalability. The talk also promotes student involvement in hands-on tutorials to deepen practical skills in CV and RISC-V integration, fostering innovation in AI-enabled edge devices and Industry 4.0.

## Biography:

I am an assistant professor at the Department of Electrical Engineering, City University of Hong Kong. Before that, I was a Wallenberg-NTU Presidential Postdoc Fellow in the Rapid-Rich Object Search Lab of Nanyang Technological University. I obtained my Ph.D. degree from NTU in 2018, supervised by Prof. Alex C. Kot, and the BSc degree from the University of Electronic Science and Technology of China in 2013.

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