HKUST-KAIST AI Chip Workshop, December 8th, 2025

HKUST Academic Building, Room 4579, 4/F (Lift 27/28)

Opening Session (9:00~9:30)		
9:00~9:15	Opening Remark by Prof. Patrick Yue (HKUST)	
9:15~9:30	Introduction of KAIST Prof. Hoi-Jun Yoo's SSL Lab	
Session 1: Energy-Efficient AI Processor		
9:30~9:50	Title:	A 14.08-135.69Token/s ReRAM-on-Logic Stacked Outlier-Free Large-Language-Model Accelerator with Block-Clustered Weight-Compression and Adaptive Parallel-Speculative-Decoding
	Speaker:	Pingcheng Dong (HKUST, Advisor: Prof. Tim Cheng)
9:50~10:10	Title:	A 9.6 TOPS/W Vision Transformer Processor with Hierarchical Token Merging for Similarity-Driven Difference Computing
	Speaker:	Yuseon Choi (KAIST, Advisor: Prof. Hoi-Jun Yoo)
10:10~10:30	Title:	LLM.265: Video Codecs Are Secretly Tensor Codecs
	Speaker:	Ceyu Xu (HKUST, RAP of Prof. Yuan Xie)
Session 2: Algorithm-Hardware Co-design for AI Computing		
10:30~10:50	Title:	A 62.8 TOPS/W FP-INT Digital Computing-in-Memory Processor with Bit-Reordered Adder Tree and Low Active Hierarchical Accumulator
	Speaker:	Yujin Moon (KAIST, Advisor: Prof. Hoi-Jun Yoo)
10:50~11:10	Title:	FLICKER: A Fine-Grained Contribution-Aware Accelerator for Real-Time 3D Gaussian Splatting
	Speaker:	Wenhui Ou (HKUST, Advisor: Prof. Patrick Yue)
11:10~11:30	Title:	A 13.8 TOPS/W Polynomial Implicit Neural Representation Accelerator with Tile Similarity Exploitation and LUT-Based Matrix Multiplication Reformation
	Speaker:	Yurim Jo (KAIST, Advisor: Prof. Hoi-Jun Yoo)
Session 3: Architecture for Vision Applications		
14:00~14:20	Title:	A Real-Time 4.31 mJ/Frame Neural-3DGS Processor with Voxel Similarity Memory Management and Opacity-Based Sparsity Generation
	Speaker:	Minseo Kim (KAIST, Advisor: Prof. Hoi-Jun Yoo)
14:20~14:40	Title:	Accelerating Visual Autoregressive Models through Software/Hardware Co-Design
	Speaker:	Xujiang Xiang (HKUST, Advisor: Prof. Fengbin Tu)
14:40~15:00	Title:	A 2.67 mJ/frame Video Mamba Accelerator with Importance-Aware Redundancy Elimination and SSM Computing Reformulation
	Speaker:	Jungwan Lee (KAIST, Advisor: Prof. Hoi-Jun Yoo)
ACCESS Visit at HK Science Park (15:45~17:00)		

Support by HKUST ECE Department, AI Chip Center for Emerging Smart Systems (ACCESS), Institute of Integrated Circuits and Systems (I^2CS), IEEE SSCS Hong Kong Student Chapter, and KAIST Semiconductor System Lab (SSL).

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