COOL Chips 27
April 17 - 19, 2024

Conference Time Table & Program

Wed. 17

Start	End	duration	Session		"Title", *Authors (Affiliations, Countries)*	Chair	Co-Chair	TimeZone
13:00	13:20	0:20	Session I : Welcome & Opening Remarks			Y. Kobayash (NEC)	H. Matsutani (Keio Univ.)	
13:20	14:10	0:50	Session II : Keynote Presentation 1	Keynote	**Accelerating AI with Analog In-Memory-Computing** **Stefano Ambrogio (IBM Research)**	T. Ueda (IBM Japan)	H. Matsutani (Keio Univ.)	
14:10	14:30	0:20	Break					
14:30	15:20	0:50	Session III : Keynote Presentation 2	Keynote	**"Optical Neural Networks With In-Memory Computation and Tensor Decomposition"** **Stanley Cheung (Hewlett Packard Enterprise)**	T. Ishihara (Nagoya Univ.)	H. Iwasaki (TUAT)	
15:20	15:40	0:20	Break					
15:40	16:05	0:25	Session IV : FPGAs and Reconfigurable Processors		**[14] Hoai Luan Pham, Hai Hau Nguyen, Vu Trung Duong Le, Tuan Hai Vu, Thi Diem Tran, Thi Hong Tran and Yasuhiko Nakashima,"MRCA: Multi-grained Reconfigurable Cryptographic Accelerator for Diverse Security**			
16:05	16:20	0:15			**[16] Takuya Kojima, Yosuke Yanai, Hayate Okuhara, Hideharu Amano, Morihiro Kuga and Masahiro Iida,"SLMLET: A RISC-V Processor SoC with Tightly-Coupled Area-Efficient eFPGA Blocks"**			
16:20	16:35	0:15			**[19] Zirui Lin, Kazuhiro Nakadai, Katsutoshi Itoyama and Hideharu Amano,"FPGA-based Low Power Acceleration of HARK Sound Source Localization"**			
16:35	16:50	0:15			**[34] Kento Mishima, Naoya Niwa, Kazutoshi Wakabayashi and Hiroe Iwasaki,"ISP Parameter Optimization and FPGA Implementation for Object Detection in Low-Light Conditions"**			
16:50	17:00	0:10	Break					
17:00	17:40	0:40	Special Invited Presentation	Invited presentation	**"Achieving the most energy-efficient compute fabric for ML and HPC using of thousands of RISC-V cores"** **Dave Ditzel (Esperanto Technologies)**			

Thu. 18

Start	End	duration	Session	Main Hall	Speaker			
9:00	9:50	0:50	Session V : Keynote Presentation 3	Keynote	**"Processing-in-Memory: from Technology to Products"** **Kyomin Sohn (Samsung Electronics)**	Y. Sato (Toyohasyi Univ. of Tech.)	Y. Hirose (Fujitsu)	
9:50	10:10	0:20	Break					
10:10	10:35	0:25	Session VI : SLAM Processors		**[24] Jueun Jung, Seungbin Kim, Bokyoung Seo, Wuyoung Jang, Sangho Lee, Jeongmin Shin, Donghyeon Han and Kyuho Lee,"A Low-power and Real-time Semantic LiDAR SLAM processor with Point Neural Network Segmentation and kNN Acceleration for Mobile Robots"**			
10:35	11:00	0:25			**[25] Gwangtae Park, Seokchan Song, Haoyang Sang, Dongseok Im, Donghyeon Han, Sangyeob Kim, Hongseok Lee and Hoi-Jun Yoo, "A Low-power and Real-time Neural-Rendering Dense SLAM Processor with 3-Level Hierarchical Sparsity Exploitation"**			
11:00	12:00	1:00	Poster Session					
12:00	13:00	1:00	Lunch					
13:00	14:30	1:30	Special Invited Lecture 1		**"Navigating Aging Realities: Integrating Reliability into Cutting-Edge Computing Systems"** **Yu-Guang Chen (National Central Univ. Taiwan)**	J. Shiomi (Osaka Univ.)		
14:30	14:50	0:20	Break					
14:50	16:20	1:30	Special Invited Lecture 2		**"Radiation-hardened circuit design for space application"** **SinNyoung Kim (imec)**	J. Shiomi (Osaka Univ.)		
16:20	16:40	0:20	Break					
16:40	18:00	1:20	Session VII : Panel Discussion	Panel	**Exploring the Potential, Limits, and Challenges of PiM (Processing-in-Memory) and CiM (Computation-in-Memory)**	Y. Nakashima (NAIST)		

Fri. 19

Start	End	duration	Session	Main Hall	Speaker	Chair	Co-Chair	
9:00	9:50	0:50	Session VIII: Keynote Presentation 4	Keynote	**"Intel Foundry Advanced Packaging: enabling low-power client through AI and HPC"** **Peng Chunqing (Intel)**	T. Sakata (TIER IV)	R. Egawa (Tokyo Denki Univ.)	
9:50	10:10	0:20	Break					
10:10	11:00	0:50	Session IX: : Keynote Presentation 5	Keynote	**"Hot AI by COOL SoCs"** **Hoi-Jun Yoo (KAIST)**	Y. Kobayashi (NEC)	S. Sasaki (Toshiba)	
11:00	11:20	0:20	Break					
11:20	11:45	0:25	Session X : CNN and GCN		**[30] Seunghyun Park and Daejin Park,"Power-Efficient CNN Accelerator Design with Bit-Separable Radix-4 Booth Multiplier"**			
11:45	12:00	0:15			**[22] Dohyun Kim, Koki Asahina, Yirong Kan, Renyuan Zhang and Yasuhiko Nakashima,"Power-Efficient Acceleration of GCNs on Coarse-Grained Linear Arrays"**			
12:00	12:15	0:15			**[26] Simon Friedrich, Robert Wittig, Emil Matus, Darius Grantz, Martin Zeller, Jens Benndorf and Gerhard Fettweis,"A 22 nm 10 TOPS Mixed-Precision Neural Network SoC for Image Processing with Energy-Efficient Dilated Convolution Support"**			
12:15	12:25	0:10	ASPIRE Session		**MINOWA Dai. "About the ASPIRE funding program and current open calls"**	H. Amano		
12:25	13:45	1:20	Lunch					
13:45	14:45	1:00	Poster Break					
14:45	15:10	0:25	Session XI : Parallel and Distributed Computing		**[15] Qi Li and Masato Edahiro,"Template-Based Automatic Library Function Generation with Halide for Compute-Intensive Simulink Models"**			
15:10	15:35	0:25			**[29] Reoma Matsuo, Yuya Degawa, Hidetsugu Irie, Shuichi Sakai and Ryota Shioya,"Branch Divergence-Aware Flexible Approximating Technique on GPUs"**			
15:35	15:50	0:15			**[23] Daiki Saito, Siyi Hu and Yukinori Sato,"A Microservice Scheduler for Heterogeneous Resources on Edge-Cloud Computing Continuum"**			
15:50	16:10	0:20	Break					
16:10	16:35	0:25	Session XII : Accelerators		**[33] Sangjin Kim, Zhiyong Li, Soyeon Um, Wooyoung Jo, Sangwoo Ha, Sangyeob Kim and Hoi-Jun Yoo,"NoPIM: Functional Network-on-Chip Architecture for Scalable High-Density Processing-in-Memory-based Accelerator"**			
16:35	17:00	0:25			**[31] Junha Ryu, Hankyul Kwon, Wonhoon Park, Zhiyong Li, Beomseok Kwon, Donghyeon Han, Dongseok Im, Sangyeob Kim, Hyungnam Joo, Minsung Kim and Hoi-Jun Yoo,"A Low-Power Neural Graphics System for Instant 3D Modeling and Real-Time Rendering on Mobile AR/VR Devices"**			
17:00	17:15	0:15			**[32] Muhammad Sulthan Mazaya, Eko Mursito Budi, Infall Syafalni, Nana Sutisna and Trio Adiono,"Reinforcement Learning Hardware Accelerator using Cache-Based for Optimized Q-Table Selection"**			
17:15	17:40	0:25	Session XIII : Poster Award and Closing Remarks			Y. Wada (Meisei Univ.)	R. Egawa (Tokyo Denki Univ.)	