113 年 05 月　通過　學術審查

年　　級：博 五 （ 108 入學）

著作列表

Journal Papers

1. **Yi-Han Lien**, Yen-Ting Chen, Yuan-Hao Chang, Yu-Pei Liang, and Wei-Kuan Shih, "FSIMR: File-system-aware Data Management for Interlaced Magnetic Recording," accepted and to appear in ACM Transactions on Embedded Computing Systems (TECS). (Integrated with ACM/IEEE CODES+ISSS'23)
2. **Yi-Han Lien**, Yi-Hua Chen, and Po-Chun Huang, “Enabling Efficient Random Data Insertion/Deletion on Block-based File Systems,” IEEE Transactions on computers (TC), vol. 71, no. 6, pp. 1479-1494, Jun. 2021.

Conference Papers

1. **Yi-Han Lien**, Yen-Ting Chen, Yuan-Hao Chang, Yu-Pei Liang, and Wei-Kuan Shih, "FSIMR: File-system-aware Data Management for Interlaced Magnetic Recording," ACM/IEEE International Conference on Hardware/Software Codesign and System Synthesis (CODES+ISSS), September 2023, (Journal Track, Integrated with ACM TECS)
2. Yu-Pei Liang, Min-Hong Shen, **Yi-Han Lien**, and Wei-Kuan Shih, "Facilitate External Sorting for Large-Scale Storage on Shingled Magnetic Recording Drives," Advances in Information and Communication: Proceedings of the 2019 Future of Information and Communication Conference (FICC), Volume 2. Springer International Publishing, 2020.
3. Yi-Hua Chen, **Yi-Han Lien**, and Po-Chun Huang. "Hashed B-tree: Adaptive Performance Enhancement of B-tree on Byte-addressable Nonvolatile Memories," 2020 IEEE Green Technologies Conference (GreenTech). IEEE, 2020.
4. **Yi-Han Lien**, Yi-Hua Chen, and Po-Chun Huang. "Compaction and Compression Techniques for File Systems based on Persistent Memories," Proceedings of the 2019 2nd International Conference on Data Storage and Data Engineering (DSDE). 2019.

5. Shuo-Han Chen, Wei-Shin Li, Min-Hong Shen, **Yi-Han Lien**, Tseng-Yi Chen, Tsan-Sheng Hsu, Hsin-Wen Wei and Wei-Kuan Shih, "An Update-Overhead-Aware Caching Policy for Write-Optimized File Systems on SMR Disks," IEEE 36th International Performance Computing and Communications Conference (IPCCC), San Diego, USA, Dec. 10-12, 2017.
6. Yu-Pei Liang, Shuo-Han Chen, **Yi-Han Lien**, Tseng-Yi Chen, Heng-Yin Chen, and Wei-Kuan Shih, "Enabling High-Resolution Video Support for the Next-Generation Internet-Connected Display," IEEE Cyber Science and Technology Congress (CyberSciTech), Orlando, USA, Nov. 6-10, 2017.

In-preparation

1. **Yi-Han Lien**, Yen-Ting Chen, Yuan-Hao Chang, and Wei-Kuan Shih, " B^{ε}-tree-aware Data Management for IMR-based Hard Disk Drives," preparing to submit to ACM/IEEE International Conference on Computer-Aided Design (ICCAD).

113 年 05 月　通過　學術審查

年　　級：博六 （107上入學）

著作列表

Journal Papers

[1] **Chao-Lin Lee**, Chun-Ping Chung, Sheng-Yuan Cheng, Jenq-Kuen Lee, and Robert Lai. “Accelerating AI Performance with the Incorporation of TVM and MediaTek NeuroPilot.” *Connection Science*, volume 35, page 2272586, 2023, *Taylor & Francis*.

[2] **Chao-Lin Lee**, Chen-Ting Chao, Wei-Hsu Chu, Ming-Yu Hung, Jenq-Kuen Lee, “Accelerating AI Applications with Sparse Matrix Compression in Halide”, *Journal of Signal Processing Systems*, volume 95, page 609–622, 2023, *Springer*.

[3] **Chao-Lin Lee**, Min-Yih Hsu, Bing-Sung Lu, Ming-Yu Hung, Jenq-Kuen Lee, “Experiment and enabled flow for GPGPU-Sim simulators with fixed-point instructions”, *Journal of Systems Architecture*, Volume 111, page 101783, 2020, *Elsevier*.

[4] Kuan-Hsun Chen, Chiahui Su, Christian Hakert, Sebastian Buschjäger, **Chao-Lin Lee**, Jenq-Kuen Lee, Katharina Morik, and Jian-Jia Chen. “Efficient Realization of Decision Trees for Real-Time Inference”, *ACM Transactions on Embedded Computing Systems*, 21, 6, Article 68, 26 pages, 2022.

[5] Shao-Chung Wang, Li-Chen Kan, **Chao-Lin Lee**, Yuan-Shin Hwang, and Jenq-Kuen Lee. “Architecture and Compiler Support for GPUs Using Energy-Efficient Affine Register Files”, *ACM Transactions on Design Automation of Electronic Systems (TODAES)*, Volume 23 Issue 2, Article 18, 25 pages, 2017.

Conference Papers

[1] Geng-Ming Liang, **Chao-Lin Lee**, Robert Lai, and Jenq-Kuen Lee. 2023. Support of Sparse Tensor Computing for MLIR HLS. *In Proceedings of the 52nd International Conference on Parallel Processing Workshops (ICPP Workshops '23)*. Association for Computing Machinery, New York, NY, USA, 88–95.

[2] Meng-Shiuan Shih, Hung-Ming Lai, **Chao-Lin Lee**, Chung-Kai Chen, and Jenq-Kuen Lee. 2023. Register-Pressure Aware Predicator for Length Multiplier of RVV. *In Workshop Proceedings of the 51st International Conference on Parallel Processing (ICPP Workshops '22)*. Association for Computing Machinery, New York, NY, USA, Article 10, 1–9.

[3] Che-Chia Lin, **Chao-Lin Lee**, Jenq-Kuen Lee, Howard Wang, and Ming-Yu Hung. 2021. Accelerate Binarized Neural Networks with Processing-in-Memory Enabled by RISC-V Custom Instructions. *In 50th International Conference on Parallel Processing Workshop (ICPP Workshops '21).* Association for Computing Machinery, New York, NY, USA, Article 15, 1–8.

[4] Hui-Hsin Liao, **Chao-Lin Lee**, Jenq-Kuen Lee, Wei-Chih Lai, Ming-Yu Hung, and Chung-Wen Huang. 2021. Support Convolution of CNN with Compression Sparse Matrix Multiplication Flow in TVM. *In 50th International Conference on Parallel Processing Workshop (ICPP Workshops '21).* Association for Computing Machinery, New York, NY, USA, Article 17, 1–7.

[5] **Chao-Lin Lee**, Chen-Ting Chao, Jenq-Kuen Lee, Ming-Yu Hung, and Chung-Wen Huang. 2019. Accelerate DNN Performance with Sparse Matrix Compression in Halide. *In Workshop Proceedings of the 48th International Conference on Parallel Processing (ICPP Workshops '19)*. Association for Computing Machinery, New York, NY, USA, Article 14, 1–6.

[6] **Chao-Lin Lee**, Chen-Ting Chao, Jenq-Kuen Lee, Chung-Wen Huang, and Ming-Yu Hung. 2019. Sparse-Matrix Compression Primitives with OpenCL Framework to Support Halide. *In Proceedings of the International Workshop on OpenCL (IWOCL '19)*. Association for Computing Machinery, New York, NY, USA, Article 24, 1–2. (Poster)

[7] **Chao-Lin Lee**, Min-Yih Hsu, Bing-Sung Lu, and Jenq-Kuen Lee. 2018. Enable the Flow for GPGPU-Sim Simulators with Fixed-Point Instructions. *In Workshop Proceedings of the 47th International Conference on Parallel Processing (ICPP Workshops '18).* Association for Computing Machinery, New York, NY, USA, Article 12, 1–5.

[8] Li Wang, Ren-Wei Tsai, Shao-Chung Wang, Kun-Chih Chen, Po-Han Wang, Hsiang-Yun Cheng, Yi-Chung Lee, Sheng-Jie Shu, Chun-Chieh Yang, Min-Yih Hsu, Li-Chen Kan, **Chao-Lin Lee**, Tzu-Chieh Yu, Rih-Ding Peng, Chia-Lin Yang, Yuan-Shin Hwang, Jenq Kuen Lee, Shiao-Li Tsao, Ming Ouhyoung. "Analyzing OpenCL 2.0 workloads using a heterogeneous CPU-GPU simulator", *ISPASS* 2017: 127-128(Poster)

113 年 5 月　通過　學術審查

年　　級：博 八 （104 資應碩入，105 上直升）

著作列表

Journal Papers

1. **Y.-C. Kuo,** J.-H. Chiu, J.-P. Sheu, and Y.-W. Peter Hong, "UAV Deployment and IoT Device Association for Energy-Efficient Data-Gathering in Fixed-Wing Multi-UAV Networks," *IEEE Transactions on Green Communications and Networking*, vol. 5, no. 4, pp. 1934-1946, Dec. 2021 , doi: 10.1109/TGCN.2021.3093453.
   (Telecommunications - SCIE, IF = 4.8 (2022), 5-Year IF = 4.5) (citations: 16)
2. T.-J. Chen, J.-P. Sheu and **Y.-C. Kuo,** "Prefetching and Caching Schemes for IoT Data in Hierarchical Edge Computing Architecture," *International Journal of Ad Hoc and Ubiquitous Computing,* Vol. 33, No. 2, pp.109-121, 2020, doi: 10.1504/IJAHUC. 2020.105463.
   (Telecommunications - SCIE, IF = 0.7 (2022), 5-Year IF = 0.6) (citations: 4)
   - Contribution: Algorithm discussion, experiment discussion, and implementation: 25%

Conference Papers

1. C. -M. Chen, J. -P. Sheu and **Y. -C. Kuo,** "Resource Allocation with Multi-Connectivity in 5G Heterogeneous Networks," GLOBECOM 2023 - 2023 IEEE Global Communications Conference, Kuala Lumpur, Malaysia, 2023, pp. 1197-1203, doi: 10.1109 / GLOBECOM54140.2023.10437253.
   - Contribution: Algorithm discussion, experiment discussion, and implementation: 25%
2. Y. -M. Lu, J. -P. Sheu and **Y. -C. Kuo,** "Deep Learning for Ultra-Wideband Indoor Positioning," *2021 IEEE 32nd Annual International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC)*, Helsinki, Finland, 2021, pp. 1260-1266, doi: 10.1109/PIMRC50174.2021.9569615. (citations: 17)
   - Contribution: Algorithm discussion, experiment discussion, and implementation: 25%
3. M.-S. Cheng, J.-P. Sheu, N. Van Cuong and **Y.-C. Kuo,** "Mobility Prediction at Points of Interest Using Many-to-One Recurrent Neural Network," *Proceedings of the IEEE Global Communications Conference* (GLOBECOM), Taipei, Taiwan, Dec. 2020, pp. 1-6, doi: 10.1109/GLOBECOM42002.2020.9322343. (citations: 2)
   - Contribution: Algorithm discussion, experiment discussion, and implementation: 15%
4. Y.-W. Chen, J.-P. Sheu, **Y.-C. Kuo** and N. Van Cuong, "Design and Implementation of IoT DDoS Attacks Detection System Based on Machine Learning," *Proceedings of the European*

Conference on Networks and Communications (EuCNC), Dubrovnik, Croatia, June 2020, pp. 122-127, doi: 10.1109/EuCNC48522.2020.9200909. (citations: 69)

- Contribution: Algorithm discussion, experiment discussion, and implementation: 20%

5. J.-H. Chiu, **Y.-C. Kuo,** J.-P. Sheu and Y.-W. Peter Hong, "Energy-Efficient UAV Deployment and IoT Device Association in Fixed-Wing Multi-UAV Networks," *Proceedings of the IEEE Global Communications Conference* (GLOBECOM), Taipei, Taiwan, Dec. 2020, pp. 1-6, doi: 10.1109/GLOBECOM42002.2020.9322292. (citations: 7)
   - Contribution: Algorithm discussion, experiment discussion, and implementation: 15%
6. C.-Y. Hsieh, Y.-C. Li, C.-H. Hsu, **Y.-C. Kuo,** C.-C. Chen, C.-H. Hsu, and J.-P. Sheu, "Demo: Stream Processing of Software-Defined Video Analytics on a Smart Campus," *Proceedings of the 5th IEEE International Conference on Big Data Intelligence and Computing* (DataCom), Kaohsiung, Taiwan, Nov. 2019. (citations: 2)
   - Contribution: Experiment discussion, and implementation: 10%

Preparing

1. **Y.-C. Kuo,** Y.-W. Peter Hong and J.-P. Sheu, " UAV Path Planning for Sustainable Data Collection over Clustered Smart Pole Systems," *IEEE Internet of Things Journal*
   (Status: 98% completion, only minor adjustments to a few figures remaining)
2. **Y.-C. Kuo,** J.-P. Sheu and Y.-W. Peter Hong, " Twin-Spinning Laser-Based UAV Positioning and Landing System," *IEEE Transactions on Instrumentation and Measurement*
   (Status: 75% completion. Implementation of experimental facilities, including HW, SW, and FW, has been completed, and initial testing has finished. Remaining tasks include fine-tuning of the system, data collection, and performance analysis. The draft of the paper for the completed portion has also been synchronized.)

Honors and Awards

- The 11th Guangdong-Hong Kong-Macao Bay Area Doctoral Students Nanshan Academic Forum and the 9th Cross-Strait Tsinghua Postgraduate Academic Forum, 2019
  First Runner-Up in "Intelligent Manufacturing and Information Technology" sub-forum
- Ziwang Cup Programming Competition, 2016
  The First Runner-Up
- Programming Competition of 4G Wireless Broadband Campus Applications, 2015
  The Champion
- The 15th Macronix Golden Silicon Award
  Semiconductor Design and Applications Competition
  Merit Award
- MobileHeros Connectivity Innovation Challenge, 2015
  Internet of Things/Wearable Device Development Contest

Merit Award

Patents

1. 201811616 Method and System for Automatically Shifting Gears of Bike
2. 201541421 Bus Schedule Displaying System for Bus Stop