

Liang-Chi Chen

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https://chi-0828.github.io/LCCHEN.github.io

RESEARCH AREA

- 1. Embedded system
- 2. Memory and storage system
- 3. Processing-in-memory architecture and application

CODING LANGUAGE

- 1. C/C++
- 2. python
- 3. verilog

EDUCATION



MS. COMPUTER SCIENCE AND INFORMATION ENGINEERING National Cheng Kung University (NCKU)

Sept. 2022 - present



BS. COMPUTER SCIENCE AND INFORMATION ENGINEERING

Sept. 2018 - Jun. 2022

National Chung Cheng University (CCU)

Presidential award (rank 1 in class), second semester of the 108 academic year

RELEVANT EXPERIENCE



INSTITUTE OF INFORMATION SCIENCE, ACADEMIA SINICA, Research intern Summer 2022

During the internship, I studied storage, non-volatile memory, and processing-in-memory, and presented my paper on an international conference.

PATERE, Software engineering intern

Summer 2021

Patère

I had projects about computer vision and deep learning, e.g., implementing an object detection application for patient assistance.

Tools and skills: c/c++, python, tensorflow, opencv.

PUBLICATION

- 1. Journal papers
 - a) LongPhase: an ultra-fast chromosome-scale phasing algorithm for small and large variants Jyun-Hong Lin, Liang-Chi Chen, Shu-Chi Yu, Yao-Ting Huang Bioinformatics, 2022, 38.7: 1816-1822. https://doi.org/10.1093/bioinformatics/btac058
- 2. Conference papers
 - a) Efficient Sanitization Design for LSM-based Key-Value Store over 3D MLC NAND Flash Liang-Chi Chen, Shu-Qi Yu, Chien-Chung Ho, Wei-Chen Wang, Yung-Chun Li The 38th ACM/SIGAPP Symposium On Applied Computing (SAC), March 27-31, 2023. (to be appear)

b) RNA-seq Quantification on Processing in memory Architecture: Observation and Characterization

Liang-Chi Chen, Shu-Qi Yu, Chien-Chung Ho, Yuan-Hao Chang, Da-Wei Chang, Wei-Chen Wang, Yu-Ming Chang

The 11th IEEE Non-Volatile Memory Systems and Applications Symposium (NVMSA), August 23-25, 2022

https://doi.org/10.1109/NVMSA56066.2022.00014

PROJECT

1. Genome sequencing on processing-in-memory system

Running state-of-the-art RNA quantification software "kallisto" on UPMEM DPU system https://github.com/chi-0828/RNA-Abundance-Quantification-on-UPMEM

2. Sanitization design on NAND flash

SSD simulator implementation in C++

3. longphase

Assist in implementation of phasing software

- a) Parsing module and multi-threading parallelism
- b) Build configuration tool

https://github.com/twolinin/longphase