

Chih-Yung Liang (梁智湧)

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in chihyung-liang

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Education

National Taiwan University

MSc student in Computer Science, Institute of Networking and Multimedia

Taipei, Taiwan

2016–Present

○ Advisor: Prof. Wei-Chung Hsu

○ Overall: GPA 4.24/4.3, class rank 3/40

National Chiao Tung University

BSc in Computer Science, Department of Computer Science

Hsinchu, Taiwan

2012–2016

○ Won 5 academic achievement awards (top 5% of class in semester), Fall 2013–Fall 2015

○ Last 60 credits: GPA 4.06/4.3

○ Overall: GPA 3.89/4.3, class rank 3/54

Publication (accepted)

C. Liang, S. Fu, Y. Liu and W. Hsu, "Automatically Migrating Sequential Applications to Heterogeneous System Architecture", in *The 2018 International Conference on High Performance Computing & Simulation, Special Session on Compiler Architecture, Design and Optimization*, Orléans, France, Jul. 2018. (URL: <https://goo.gl/Cf8Azp>)

○ **Heterogeneous System Architecture (HSA)** is a hardware architecture proposed for more efficient heterogeneous computing. Built on **LLVM**, our framework transforms sequential code and generates GPU binary with LLVM's backends. It includes polyhedral dependence checking and a runtime dispatching scheduler. On an AMD Carrizo machine (HSA-compliant), a sequential application running through this framework could be 8.66x faster than before.

Experience

Industrial Technology Research Institute (ITRI)

Intern, Information and Communications Research Laboratories

Hsinchu, Taiwan

Sept. 2017–Jan. 2018

○ Surveyed Control Flow Integrity and helped decide team's project direction

Industrial Technology Research Institute (ITRI)

Intern, Service Systems Technology Center

Hsinchu, Taiwan

July 2016–Aug. 2017

○ Built a system for electronic commerce and social media analysis

National Chiao Tung University

Part-time assistant, Information Technology Service Center

Hsinchu, Taiwan

Apr. 2015–Oct. 2015

○ Penetration testing for 26 school's internal website systems

○ Found and reported 20 security issues leaking personal information in 13 systems

Skills

○ **Compiler Optimization (LLVM)**

○ Computer Security

○ **Heterogeneous System Architecture (HSA)**

○ Web and iOS Development

○ Programming Languages: C/C++ > Python > Swift > C# = PHP = JavaScript

Projects and Scholarships

Modulized APT Framework for Red Team Practice

An automatic framework capable of various exploitation in penetration testing

2014–2016

○ Advisor: Prof. Shihpyng Shieh

○ Won College Student Research Scholarship, Ministry of Science and Technology, Taiwan, July 2015–Feb. 2016

○ Won 3 bachelor's project scholarships, Spring 2015, Summer 2015, and Fall 2015

Hardware-software Co-design for Accelerating Sequential Image Pattern Searching Application

Accelerate application "Find Face" with a FPGA Intellectual Property, <https://github.com/cyliang/shlab-final> 2015

○ Won The Yin Zhi Tong Memorial Scholarship, 2016

○ Advisor: Prof. Chun-Jen Tsai

Certificate

Collegiate Programming Examination, ACM-ICPC Contest Council for Taiwan

Professional, rank 1.5%

Oct. 2015