# **KUAN-YU CHANG**

# **DESIGN VERIFICATION ENGINEER**

ASMedia Technology Inc. 6F, No. 115, Minquan Rd., Xindian Dist., New Taipei City 231, Taiwan, R.O.C.

Phone: +886-2-2219-6088

Email: kuanyu\_chang@asmedia.com.tw

### PROFESSIONAL EXPERIENCES

# **Design Verification Engineer**

Research and Development Dept. ASMedia Technology Inc., Taiwan Jul. 2023 - present

• PCI Express® (PCIe) Revision 5.0

#### Verification IP Engineer (RDSS)<sup>1</sup>

Upper Layer Group of PCIe VIP Team Avery Design Systems, Inc., Taiwan<sup>2</sup> Jul. 2021 - Apr. 2023

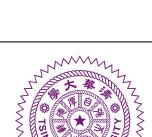
- PCI Express® (PCIe) Revision 6.0.1
  - Enhance the Bus Functional Model (BFM) to support Flit mode.
    - \* Flit Marker mechanism
    - \* Flit Ack, Nak, and Discard Rules
    - \* Flit Replay Rules (especially the Selective Replay)
  - Enhance / Develop compliance test cases for Flit mode.
    - \* 14-Bit Tag mechanism
    - \* Orthogonal Header Content (OHC) of Transaction Layer Packets
    - \* Shared Flow Control with extended virtual channels
- Streaming Fabric Interface (SFI) [Read more]
  - Design the architecture of the BFM.
  - Lead the schedule of the product development.
  - Develop the functionality to align with the latest specification.
- Resolved 350+ issues while supporting customers on the bug tracking system (Bugzilla)
  - 67.33% Customer Issues / 27.56% Product Enhancements
- Contributed 13k+ lines of SystemVerilog code on the Concurrent Versions System (CVS, Linux)
  - 16.07% PCIe BFM / 25.96% SFI BFM / 57.97% Test cases

#### **EDUCATION**

## National Tsing Hua University, Hsinchu, Taiwan

Advisor: Prof. Chun-Yi Lee

- M.S. in Computer Science Jun. 2021
  - Master's Thesis: Mapping Nearest Neighbor Compliant Quantum Circuits onto a 2-D Hexagonal Architecture [NDLTD]
- B.S. in Interdisciplinary Program of Science Jun. 2017
  - Double expertise in Computer Science and Chemistry





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 $<sup>^1 \</sup>rm RDSS$  stands for Research and Development Substitute Services.

<sup>&</sup>lt;sup>2</sup>Siemens Digital Industries Software acquired Avery Design Systems, Inc. in March 2023. [Read more]

## **PUBLICATIONS**

(\* denotes the communication author)

- [1] K.-Y. Chang and C.-Y. Lee\*, "Mapping Nearest Neighbor Compliant Quantum Circuits onto a 2-D Hexagonal Architecture," *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (TCAD)*, vol. 41, no. 10, pp. 3373–3386, Oct. 2022, ISSN: 1937-4151. DOI: 10.1109/TCAD.2021.3127868.
- [2] Y.-H. Chang, K.-Y. Chang, H. Kuo, and C.-Y. Lee\*, "Reusability and Transferability of Macro Actions for Reinforcement Learning," *ACM Transactions on Evolutionary Learning and Optimization (TELO)*, vol. 2, no. 1, Apr. 2022, ISSN: 2688-299X. DOI: 10.1145/3514260.
- [3] Y.-M. Chen, K.-Y. Chang, C. Liu, T.-C. Hsiao, Z.-W. Hong, and C.-Y. Lee\*, "Composing Synergistic Macro Actions for Reinforcement Learning Agents," *IEEE Transactions on Neural Networks and Learning Systems* (TNNLS), pp. 1–8, 2022, Early Access. DOI: 10.1109/TNNLS.2022.3213606.