

# WEI-YI WEI 魏維毅

## Curriculum Vitae

### CONTACT INFORMATION

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Last CV Updated: July 14, 2013

### EDUCATION

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**National Chung-Hsing University (NCHU), Taichung, Taiwan** Sep. 2004–Jun. 2008

- B. S., Department of Electrical Engineering
- GPA: 3.96/4.0 (91.5/100)
- Rank: 1/45

**National Taiwan University (NTU), Taipei, Taiwan** Sep. 2008–Jun. 2010

- M. S., Graduate Institute of Communication Engineering
- GPA: 4.0/4.0 (92.5/100)
- Rank: top 10%
- Advisor: Prof. Jian-Jiun Ding

### AWARDS AND HONORS

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**National Chung-Hsing University (NCHU), Taichung, Taiwan**

- Avg. Score: Rank 1 in Department of Electrical Engineering, NCHU, (1/45)
- President's Awards, NCHU (7 times, Rank 1/45 in the last semester is exclusive)
  - Top 6% (3/45) students per semester announced this award in the Electrical Engineering.
- 金鑰獎, 國立中興大學電機工程學系, 2008.
- 菁莪獎, 國立中興大學電機工程學系, 2006.
- 菁莪獎, 國立中興大學電機工程學系, 2007.
- Nominee, Soft IP Division, Silicon Intellectual Property Contest, 2007.

**National Taiwan University (NTU), Taipei, Taiwan**

- 98 學年度最佳碩士學位論文獎, 國立台灣大學電信工程學研究所, 2010.
- 青年論文獎第三名, 中國電機工程學會, 2010.

- Best Poster Award, International Conference paper on Asia Pacific Signal and Information Processing Association, 2010.
- Best Paper Award, The 22nd IPPR Conference on Computer Vision, Graphics and Image Processing, 2009.
- Graduate Student Scholarship, NTU, 2009-2010.
  - Top 10% students per semester announced this award in the Grad. Inst. Communication Engineering.

## **WORK EXPERIENCE**

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### **National Taiwan University, Taipei, Taiwan**

- Teaching Assistant, Switching Circuit and Logic Design Fall 2009
- Teaching Assistant, Signal and System Spring 2009

### **Realtek Semiconductor, Hsinchu, Taiwan**

- Digital IC Designer, Switch, Communication Network Business Unit Sep. 2010–Present

## **PROJECTS**

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### **RealTek Semiconductor, Hsinchu, Taiwan**

- IEEE 802.3 Switch MAC chipset development
- IEEE 802.3 Switch PHY chipset development

## **PROFICIENCIES**

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### **Programming Language**

- Verilog, SystemVerilog, SystemC, VMM/RVM, Perl, TCL, HSPICE, C/C++, C#, Java, MATLAB.

### **Physical Design Tools**

- Cadence NCVerilog, Synopsys VCS, Synopsys Design Compiler, Synopsys PrimeTime, Synopsys PrimeTime-PX, Springsoft Debussy, Cadence LEC.

### **Language**

- TOEIC: score 825 (Listening: 420, Reading: 405)

## **RESEARCH INTEREST**

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- Image and Video Coding Algorithms
- Digital Signal and Image Processing
- Digital System and Circuit Design
- Digital IC design of Viterbi Decoder
- Digital IC design of IEEE 802.3 MAC/PHY chipset

## **PUBLICATION**

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### **Master Thesis**

- [1] Wei-Yi Wei, "Image Coding by Adaptive Golomb Codes and the Information of Adjacent Blocks," *National Taiwan University*, May, 2010.

### Journal

- [2] J. J. Ding, H. H. Chen, and Wei-Yi Wei, "Adaptive Golomb code for joint geometrically distributed data and its application in image coding," *IEEE Trans. Circuits Syst. Video Technol.*, accepted, Aug. 2012.

### Conference

- [1] J. J. Ding, Wei-Yi Wei, and G. C. Pan, "Modified Golomb Coding Algorithm for Asymmetric Two-Sided Geometric Distribution Data," *EUSIPCO 2012*, Bucharest, Romania, Aug. 2012.
- [2] J. J. Ding, Wei-Yi Wei, and G. C. Pan, "Modified Golomb coding algorithm for asymmetric two-sided geometric distributed data," *CVGIP*, Chia-Yi, Taiwan, Aug. 2011.
- [3] J. J. Ding, Wei-Yi Wei, and H. H. Chen, "Context-based adaptive zigzag scanning for image coding," *International Conference on VCIP*, Tainan, Nov. 2011.
- [4] J. J. Ding, S. C. Pei, W. Y. Wei, H. H. Chen, and T. H. Lee, "Adaptive Golomb code for joint geometrically distributed data and its application in image coding," *APSIPA Annual Summit and Conference*, Biopolis, Singapore, Dec. 2010. (**Best Poster Award**)
- [5] Wei-Yi Wei, Hsin-Hui Chen, and Jian-Jiun Ding, "Improved Advanced Image Coding Based on DC Intra Prediction Mode," *CVGIP*, Aug. 2010.
- [6] Wei-Yi Wei, Hsin-Hui Chen, and Jian-Jiun Ding, "Context-Based Adaptive Zigzag Scanning For Image Coding," *CVGIP*, Aug. 2010.
- [7] S. C. Pei, J. J. Ding, Wei-Yi Wei, and T. H. H. Lee, "Improved Golomb Code For Joint Geometric Distribution Data And Its Applications In Image Processing," *CVGIP*, Aug. 2009. (**Best Paper Award**)
- [8] Yun-Ching Tang, Do-Chen Hu, Wei-Yi Wei, Wen-Chung Lin, and Hongchin Lin, "A Memory-efficient Architecture for Low Latency Viterbi Decoders," *International Symposium on VLSI Design, Automation and Test (VLSI-DAT)*, 2009.

### Contest

- [1] Soft IP: General Purpose High-speed Pipelined 2n-point FFT/IFFT, *Silicon Intellectual Property Contest*, 2007.

### Tutorial

- [1] 魏維毅, "面試準備經驗分享," *National Taiwan University*, Jun., 2010.

## AUTOBIOGRAPHY

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**Wei-Yi Wei** was born in Tainan, Taiwan. He received the B.S degree in electrical engineering from the Electrical Engineering, National Chung-Hsing University, Taichung, Taiwan, in 2008, and the M.S. degree in communication engineering from the Graduate Institute of Communication Engineering, National Taiwan University, Taipei, Taiwan, in 2010.

He joined the Realtek Semiconductor Corp., Hsinchu Science Park, Taiwan, in 2010, and is currently a digital IC designer with the IC Design Center, Switch, Communication Network Business Unit. His research interests

include signal/image processing, image/video coding (JPEG, JPEG2000, JPEG-LS, MPEG-1/2/4, H.264/AVC), the digital IC design of Ethernet chipset (IEEE 802.3 MAC/PHY).

## **LIST OF REFERENCES**

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- Prof. Jian-Jiun Ding, Department of EE, National Taiwan University, [djj@cc.ee.ntu.edu.tw](mailto:djj@cc.ee.ntu.edu.tw)
- Prof. Hongchin Lin, Department of EE, National Chung-Hsing University, [hclin@nchu.edu.tw](mailto:hclin@nchu.edu.tw)