

Curriculum Vitae

Dong-Gon Yoo

Staff Engineer of Samsung Display

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EDUCATION

- Pohang University of Science and Technology (POSTECH), Pohang, Republic of Korea
 - *Doctor of Philosophy in Electrical Engineering*, 2009 – 2014
 - Advisor: Young Hwan Kim
 - Lab: CAD & SoC Design Lab (<http://soc.postech.ac.kr>)
 - Thesis: Reliable Direction Selection for Forward and Backward Motion Estimation (<http://oasis.postech.ac.kr/handle/2014.oak/2065>)
- Pohang University of Science and Technology (POSTECH), Pohang, Republic of Korea
 - *Master's Degree in Electrical Engineering*, 2007 – 2009
 - Advisor: Young Hwan Kim
 - Lab: CAD & SoC Design Lab (<http://soc.postech.ac.kr>)
 - Thesis: Phase Correlated Bilateral Motion Estimation for Frame Rate Up-Conversion (<http://oasis.postech.ac.kr/handle/2014.oak/8827>)
- Pohang University of Science and Technology (POSTECH), Pohang, Republic of Korea
 - *Bachelor's Degree in Electrical Engineering*, 2003 – 2007

WORK EXPERIENCES – INDUSTRY

- SAMSUNG DISPLAY, Kiheung, Republic of Korea
 - Display Manufacturing Company (<https://www.samsungdisplay.com/eng/index.jsp>)
 - Staff Engineer, 2014.03 – present
 - Main work: Developing Inspection Automation Software and Inspection Algorithms

PUBLICATIONS

1. **D.-G. Yoo**, and K.-Y. Han, Viewing Distance-Aware Backlight Dimming of Liquid Crystal Displays, *IEEE/OSA Journal of Display Technology*, Mar. 2015, Vol. 11, No. 3, pp. 304-310
2. **D.-G. Yoo**, S.-J. Kang, H.-S. Kim, and Y. H. Kim, Viewing Distance-Aware Backlight Dimming of Liquid Crystal Displays, *IEEE/OSA Journal of Display Technology*, Oct. 2014, Vol. 10, No. 10, pp. 867-874
3. S.H. Kim, **D.-G. Yoo**, and Y. H. Kim, Stereo Confidence Metrics using the Costs of Surrounding Pixels, *International Conference on Digital Signal Processing (DSP)*, Aug. 2014

4. **D.-G. Yoo**, S.-J. Kang, and Y. H. Kim, "Direction-Select Motion Estimation for Motion-Compensated Frame Rate Up-Conversion, *IEEE/OSA Journal of Display Technology*, Oct. 2013, Vol. 9, No. 10, pp. 840-850
 5. **D.-G. Yoo** and Y. H. Kim, Perceived Distortion Aware Backlight Dimming for Low Power and High Quality LCD Devices, *The International Conference on Consumer Electronics (ICCE)*, Jan. 2013
 6. S.H. Kim, **D.-G. Yoo**, and Y. H. Kim, Temporal Sparse Scan for Human Detection in Video, *International Conference on Image Processing, Computer Vision, & Pattern Recognition (IPCV)*, Jul. 2012
 7. **D.-G. Yoo**, S.-J. Kang, S. K. Lee, and Y. H. Kim, Motion Vector Smoothing for Motion-Compensated Frame Rate Up-Conversion, *International SoC Design Conference (ISOCC)*, Nov. 2010
 8. **D.-G. Yoo**, S.-J. Kang, S. K. Lee, and Y. H. Kim, Performance Comparison of Fast Bilateral Motion Estimation Algorithms for Frame Rate Up-Conversion, *International Meeting on Information Display (IMID)*, Oct. 2010
 9. S.-J. Kang, **D.-G. Yoo**, S. K. Lee, and Y. H. Kim, Full Search Block Matching Algorithm using Pattern-based Sub-sampling for Low Power Hardware Implementation, *International Technical Conference on Circuits/Systems, Computers and Communications (ITC-CSCC)*, Jul. 2009
 10. **D.-G. Yoo**, S.-J. Kang, S. K. Lee, and Y. H. Kim, Adaptive Sum of the Bilateral Absolute Difference for Motion Estimation Using Temporal Symmetry, *The SID International Symposium, Seminar, and Exhibition*, May. 2009
 11. S.-J. Kang, **D.-G. Yoo**, S. K. Lee, and Y. H. Kim, Design and Implementation of Median Filter based Adaptive Motion Vector Smoothing for Motion Compensated Frame Rate Up-Conversion, *International Symposium on Consumer Electronics (ISCE)*, May. 2009
 12. S. J. Kang, **D.-G. Yoo**, S. K. Lee, and Y. H. Kim, Multiframe-based Bilateral Motion Estimation with Emphasis on Stationary Caption Processing for Frame Rate Up-Conversion, *IEEE Transactions on Consumer Electronics*, Nov. 2008, Vol. 54, No. 4, pp. 1830-1838
 13. S.-J. Kang, **D.-G. Yoo**, S. K. Lee, and Y. H. Kim, Hardware Implementation of Motion Estimation Using a Sub-sampled Block for Frame Rate Up-Conversion, *International SoC Design Conference (ISOCC)*, Nov. 2008
 14. **D.-G. Yoo**, S.-J. Kang, S. K. Lee, and Y. H. Kim, Phase Correlated Bilateral Motion Estimation for Frame Rate Up-Conversion, *International Technical Conference on Circuits/Systems, Computers and Communications (ITC-CSCC)*, Jul. 2008
 15. S.-J. Kang, **D.-G. Yoo**, S. K. Lee, and Y. H. Kim, Adaptive frame rate up-conversion considering low computational complexity and complex motion, *The SID International Symposium, Seminar, and Exhibition*, May. 2008
- ※ After 2016, I focused on developing the inspection automation software and algorithms. These are the company secrets, so I cannot publish these topics.

INDUSTRY-UNIVERSITY COLLABORATION RESEARCH PROJECTS (2007-2014)

1. Research on Object Recognition System imitating Human Visual Recognition, funded by National Research Foundation (NRF), Sep. 2010-Aug. 2013
 - A. Project Leader
 - B. Pedestrian Detection, Face Detection, Human-Computer Interaction using 3D Display, Depth

Estimation based on Stereo Images, etc.

2. Research on High Performance & High Confidence Multi-Core Design
 - A. Project Member
 - B. Research on Process-Variation Invariant Multi-Core Architecture
3. Research on Hardware Implementation for Framer Rate Up-Conversion and Image Processing, LG Philips LCD, Jan. 2008-Nov.2008
 - A. Project Member
 - B. Motion Estimation & Motion Compensation Algorithms for Frame Rate Up-Conversion, and Hardware Cost-Effective Image Compression Algorithms
4. Research on Cost-Effective Image Compression and Frame Rate Up-Conversion, LG Phillips LCD, Jan. 2007-Nov.2007
 - A. Project Member
 - B. Motion Estimation & Motion Compensation Algorithms for Frame Rate Up-Conversion, and Hardware Cost-Effective Image Compression Algorithms

PATENTS

1. S.H. Kim, S. I. Cho, **D.-G. Yoo**, S.H. Kim, METHOD AND APPARATUS FOR RECOGNIZING KEY INPUT FROM VIRTUAL KEYBOARD, US09766714, Sep. 2017
2. S.H. Jang, S.-J. Kang, **D.-G. Yoo**, Y. H. Kim, S. K. Lee, C.G. Kim, D.H. Cha, S.C. Koo, Motion compensation method, motion compensation device, liquid crystal display device having the same, and driving method thereof, KR101420435, Jul. 2014
3. S.-J. Kang, Y. H. Kim, **D.-G. Yoo**, S. K. Lee, H.J. Lee, S.H. Jang, D.H. Cha, Frame rate up-conversion method and liquid crystal display using the same, KR20100054018, Mar. 2015
4. H.C. Shin, Y. H. Kim, W. Kim, **D.-G. Yoo**, Dual mode element and semiconductor circuit comprising the element and method for enhancing timing yield of semiconductor circuit, KR101085228, Nov. 2011
5. H.C. Shin, Y. H. Kim, W. Kim, **D.-G. Yoo**, E.-J. Hwang, Dual mode latch flip-flop circuit, semiconductor circuit comprising the same and method for enhancing timing yield of the semiconductor circuit, KR 101086904, Nov. 2011
6. Y. H. Kim, **D.-G. Yoo**, S.H. Kim, The backlight dimming control method using the viewing distance, KR101460041, Nov. 2014
7. **D.-G. Yoo**, K.Y. Han, Display apparatus and method of driving the same, US9858869, Jan. 2018