

# Yeong Jun Koh

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## RESEARCH INTERESTS

Video object discovery and segmentation  
Video stabilization

## EDUCATION

**Ph.D. candidate, Electrical Engineering**  
Korea University, Seoul Korea  
Advisor: Professor Chang-Su Kim

**Mar. 2011 – Feb. 2018**  
**(Expected)**

**B.S., Electrical Engineering**  
Korea University, Seoul Korea

**Mar. 2007 – Feb. 2011**

## PROFESSIONAL EXPERIENCE

### Research Assistant

Korea University, Seoul Korea

Feb. 2011 – Present

- Development of electric pen coordinate system and detection algorithm
  - Feb. 2011 – Aug. 2011
  - Funded by Samsung Electronics
  - Developing patterned coordinate system and camera based detection algorithm
- Development of object tracking for continuous autofocus
  - May. 2012 – Nov. 2012
  - Funded by Samsung Electronics
  - Developing object tracking for continuous autofocus
- Development of fast video stabilization
  - Mar. 2013 – Dec. 2013
  - Funded by Samsung Electronics
  - Developing fast video stabilization to remove rolling-shutter artifacts
- Development of dark image enhancement for intelligent context recognition
  - Mar. 2014 – Feb. 2015
  - Funded by Samsung Electronics
  - Developing dark image enhancement algorithm

## PAPERS SUBMITTED / IN PREPARATION

- [1] **Yeong Jun Koh** and Chang-Su Kim, "Unsupervised primary object discovery in videos based on evolutionary primary object modeling with reliable object proposals," submitted to *IEEE Transactions on Image Processing*.

## JOURNAL PUBLICATIONS

- [1] **Yeong Jun Koh**, Chulwoo Lee, and Chang-Su Kim, "Video Stabilization Based on Feature Trajectory Augmentation and Selection and Robust Mesh Grid Warping," *IEEE Transactions on Image Processing*, vol. 24, no. 12, pp. 5260-5273, Dec. 2015.
- [2] Jae-Kyun Ahn, **Yeong Jun Koh**, and Chang-Su Kim, "Efficient fine-granular scalable coding of 3D mesh sequences," *IEEE Transactions on Multimedia*, vol. 15, no. 3, pp. 485-497, Apr. 2013.

## CONFERENCE PUBLICATIONS

- [1] **Yeong Jun Koh** and Chang-Su Kim, "Primary object segmentation in videos based on region augmentation and reduction," in *Proc. CVPR*, Honolulu, HI, Jul. 2017.
- [2] **Yeong Jun Koh**, Won-Dong Jang, and Chang-Su Kim, "POD: Discovering primary objects in videos based on evolutionary refinement of object recurrence, background, and primary object models," in *Proc. CVPR*, Las Vegas, Nevada, Jun. 2016.
- [3] Youngbae Kim, **Yeong Jun Koh**, Chulwoo Lee, Sehoon Kim, and Chang-Su Kim, "Dark image enhancement based on pairwise target contrast and multi-scale detail boosting," in *Proc. IEEE International Conference on Image Processing (ICIP)*, Quebec, Canada, Sep. 2015.
- [4] **Yeong Jun Koh**, Jea-Young Sim, and Chang-Su Kim, "Robust video stabilization based on mesh grid warping of rolling-free features," in *Proc. IEEE International Conference on Image Processing (ICIP)*, Paris, France, Oct. 2014, pp. 5781-5785.
- [5] **Yeong Jun Koh**, Chul Lee, Jae-Young Sim, and Chang-Su Kim, "Reliable Optical Flow Estimation in Motion-Blurred Regions," in *Proc. IEEE International Workshop on Multimedia Signal Processing (MMSp)*, Pula (Sardinia), Italy, Sep.-Oct. 2013, pp. 396-401.
- [6] Seong-Gyun Jeong, **Yeong Jun Koh**, and Chang-Su Kim, "Competitive block based motion estimation for high performance of motion compensated frame interpolation," in *Proc. International Technical Conference on Circuits/Systems, Computers and Communications (ITC-CSCC)*, Yeosu, Korea, Jun. 2013.
- [7] **Yeong Jun Koh**, Sang-Hwan Kim, Chul Lee, and Chang-Su Kim, "Spatial video summarization using multi-camera based background subtraction," in *Proc. International Technical Conference on Circuits/Systems, Computers and Communications (ITC-CSCC)*, Gyeongju, Korea, Jun. 2011.

## DOMESTIC JOURNAL / CONFERENCE

- [1] Conference: 7 papers (in Korean)

## PATENTS

- [1] Jong-Hoon Won, Kazuhiko Sugimoto, Masataka Hamada, Chang-Su Kim, **Yeong-Jun Koh**, Dae-Youn Lee, and Chul Lee, "Apparatus, method, and processor for measuring change in distance between a camera and an object," Pub. No. US 2015/0103163 A1, Apr. 16, 2015.
- [2] Jong Hoon Won, Kazuhiko Sugimoto, Masataka Hamada, Chang-Su Kim, **Yeong Jun Koh**, Dae-Youn Lee, and Chul Lee, "Method for measuring changes of distance between the camera and the object using object tracking, Computer readable storage medium of recording the method and a device measuring changes of distance," Appl. No. 10-2013-0122215, Oct. 14, 2013.
- [3] In-Kuk Yun, Chang-Su Kim, Chulwoo Lee, Won-Dong Jang, Po-Ra Kim, Se-Mi Park, Jeong-Seok Lee, and **Yeong-Jun Koh**, "Apparatus and method of detecting an input position with display pattern recognition," Pub. No. US2013/0088425 A1, Apr. 2013.
- [4] In-Kuk Yun, Chang-Su Kim, Chulwoo Lee, Won-Dong Jang, Seong-Min Seo, JeongSeok Lee, Jeong-Seok Choi, and **Yeong-Jun Koh**, "Display apparatus including a pattern and method for generating a," Pub. No. US2013/0082907 A1, Apr. 2013.
- [5] In-Kuk Yun, Chang-Su Kim, Chulwoo Lee, Won-Dong Jang, Po-Ra Kim, Se-Mi Park, Jeong-Seok Lee, and **Yeong-Jun Koh**, "Aparatus and method for detecting input position by deter using displaying pattern determination," Appl. No. 10-2011-0102745, Oct. 2011.
- [6] In-Kuk Yun, Chang-Su Kim, Chulwoo Lee, Won-Dong Jang, Seong-Min Seo, JeongSeok Lee, Jeong-Seok Choi, and **Yeong-Jun Koh**, "Display apparatus including a pattern and method for forming a pattern in the display apparatus," Appl. No. 10-2011- 0099423, Sep. 2011.

## HONOR AND AWARDS

- [1] Participation Prize, 1<sup>st</sup> Competitive Exhibition of Information and Communication Paper, Research Institute for Information and Communication Technology, Korea University, Dec. 2010
- [2] Brain Korea (BK) 21 Graduate Student Fellowship, National Research Foundation of Korea (2011-2012)

## COMPUTER SKILLS

Languages

- C/C++, MATLAB

Last updated: 17 Apr. 2017