Jaeheung Surh

CONTACT INFORMATION

NAVER Green Factory, 6 Buljeong-ro
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RESEARCH INTERESTS

- Computational Photography
- Image Processing
- Stereo Matching
- SLAM / SfM
- Deep Learning

WORK EXPERIENCE

Clova AI Research (OCR), NAVER Corp, Seongnam, Korea

Research Engineer, March 2019 – Present

- Development of computer vision and image processing algorithms for OCR solutions
- Development of deep learning models for OCR solutions
- Development of lightweight deep learning models

Center of Human-centered Interaction for Coexistence (CHIC), **Korea Institute of Science and Technology (KIST)**, Seoul, Korea

Researcher, April 2017 – March 2019

- Development of a high volume data transfer network framework for interactive and cooperative experience in networked VR
- Development of computer vision solutions to aid in VR QoE

EDUCATION

KAIST, Daejeon, Korea

M.S., Electrical Engineering, Mar 2015 – Feb, 2017

- Thesis: "Fast and Robust Depth from Focus using Ring Difference Filter"
- Advisor: Prof. In So Kweon
- Area of Study: Computer Vision

KAIST, Daejeon, Korea

B.S., Electrical and Electronic Engineering, Sept 2011 – Feb 2015

- Thesis: "Multi-Threading for Accelerated Belief Propagation on Bipartite Graphs"
- Emphasis on computer science and network programming
- Early graduation (1 semester)

RESEARCH EXPERIENCE

Clova AI Research, Seoul, Korea
Research Engineer, Clova AI Research (OCR) March 2019 – Present

- Researched new computer vision solutions for document analysis and OCR.
- Researched novel deep learning training methods.
- Researched efficient deep learning model representations and inference methods.

Human-Centered Interaction for Coexistence Project, **Korea Institute of Science and Technology (KIST)**, Seoul, Korea
Researcher, CHIC April 2017 – March 2019

- Researched new computer vision solutions to aid in VR QoE.
- Researched novel synchronization protocols to aid in networked multimedia QoE.

National Core Research Center (NCRC), Daejeon, Korea
Researcher, Personal Plug and Play DigiCar Center Aug 2015 – Feb 2017

- Researched new camera systems for future vehicles.

International Journals

1. **Jaeheung Surh**, Hae-Gon Jeon, Sunghoon Im, and In So Kweon, "Ring Difference Filter for Fast and Noise Robust Depth from Focus," *IEEE Transactions on Image Processing* (**TIP**), Accepted.

International Conferences

1. Tae-Young Lee, Eunmi Lee, **Jaeheung Surh**, Joong-Jae Lee, Bum-Jae You, "Balanced Clock Skew Compensation for Immersive Networked Interactions Based on Inter Media Synchronization Level," *In Proc. of the IEEE Computer science and Electronic Engineering Conference* (**CEEC**) **[Oral Presentor]**, September 2018.
2. **Jaeheung Surh**, Hae-Gon Jeon, Hyowon Ha, Sunghoon Im and In So Kweon, "Noise Robust Depth from Focus using a Ring Difference Filter," *In Proc. of the IEEE Conference on Computer Vision and Pattern Recognition* (**CVPR** – 29% acceptance rate) **[Spotlight Presentation – 5% of submissions]**, July 2017.
3. Bokyung Lee, Jiwoo Hong, **Jaeheung Surh** and Daniel Saakes, "Ori-mandu: Korean Dumpling into Whatever Shape You Want," *In Proc. of the ACM SIGCHI Conference on Designing Interactive Systems* (**DIS** – 22% acceptance rate) **[Pictorial]**, June 2017.
4. Bokyung Lee, Jiwoo Hong, **Jaeheung Surh** and Daniel Saakes, "Ori-mandu: Korean Dumpling into Whatever Shape You Want," *In Proc. of the ACM CHI Conference Extended Abstracts on Human Factors in Computing Systems* (**CHI** – 25% acceptance rate) **[Video Showcase]**, May 2017.

Other Publications

1. **Jaeheung Surh**, Hae-Gon Jeon, Hyowon Ha, Sunghoon Im and In So Kweon, "Fast Depth from Defocus with Your Mobile Phone for Synthetic Defocus", *In Proc. of the 28th Workshop on Image Processing and Image Understanding* (**IPIU**), Feb 2016.

Talks

- "Fast and Noise Robust Depth from Focus using Ring Difference Filter with Your Mobile Phone," (**Naver D**^{2}), YouTube video: https://bit.ly/RDFNaver, Sept 2017.

IT Skills

- Programming Languages: Python, C/C++, C#, MATLAB, LaTeX, JAVA
- Languages: English, Korean
- Experience with Linux and socket programming
- Experience with Tensorflow, PyTorch, and MXNet
- Experience with Unity (C#) and VR development
- Computer hardware enthusiast