

Hyung-gun Chi

PHD STUDENT · SOFTWARE ENGINEER

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Research Interests

My research interests lie at the intersection of Computer Vision and Robotics, focusing on 3D Geometric Deep Learning and Temporal Action Analysis. In this area, I apply Machine/Deep Learning algorithms for Augmented/Virtual Reality and Video.

Education

Purdue University

PHD IN ELECTRICAL AND COMPUTER ENGINEERING

West Lafayette, IN, USA

Aug. 2018 - PRESENT

Yonsei University

BS IN MECHANICAL ENGINEERING

Seoul, South Korea

Mar. 2010 - Feb. 2017

Skills

Language Python, Matlab, C/C++, SQL, JavaScript, HTML, CSS, PHP

Machine/Deep Learning PyTorch, TensorFlow, Keras

Web Programming MYSQL/mongoDB, Flask/Node.js

Publications

Conference Proceedings

- [C2] A Large-scale Mechanical Components Benchmark for Deep Neural Networks. In proceedings of the 16th *European Conference on Computer Vision (ECCV)*, 2020.
- [C1] First-Person View Hand Segmentation of Multi-Modal Hand Activity Video Dataset. In proceedings of the 31st *British Machine Vision Conference (BMVC)*, 2020.

Journal Papers

- [J3] Object synthesis by learning part geometry with surface and volumetric representations. In *Computer-Aided Design* (2020): 102932.
- [J2] Latent transformations neural network for object view synthesis. In *The Visual Computer* (2019): 1-15.
- [J1] An Evaluation Methodology for 3D Deep Neural Network using Visualization in 3D Data Classification. In *Journal of Mechanical Science and Technology (JMST)* 33, no. 3 (2019): 1333-1339.

Selected Research Experience

Weakly-Supervised Temporal Action Localization

C-Design LAB, Purdue Univ.

GRADUATE RESEARCH ASSISTANT

May. 2020 - Present

- Proposed a novel architecture to localize temporal boundaries of action in untrimmed videos when only given action order.

A Large-scale Mechanical Component Benchmark Dataset [C2]

C-Design LAB, Purdue Univ.

GRADUATE RESEARCH ASSISTANT

Feb. 2019 - Mar. 2020

- Introduced a large-scale mechanical components benchmark for the classification and retrieval tasks.

Hand segmentation with RGBD-T data [C1]

C-Design LAB, Purdue Univ.

GRADUATE RESEARCH ASSISTANT

Jul. 2019 - May. 2020

- Published a novel hand video dataset with RGB, Depth, and Thermal images for hand segmentation.

Latent Transformation Neural Network (LTNN) [J2]

C-Design LAB, Purdue Univ.

GRADUATE RESEARCH ASSISTANT

Aug. 2018 - April. 2019

- Developed a fully-convolutional conditional generative network which is capable of view synthesis using a light-weight neural network suited for real-time applications.

Working Experience

Software Engineer and CEO

Seoul, South Korea

NEIL LAB CORPORATION

Sep. 2016 - Dec. 2017

- Found and lead a start-up company as a CEO and Software Engineer
- Developed an office automation system specifically for automating office tasks

Mechanic and Squad leader

Inje, South Korea

REPUBLIC OF KOREA ARMY

Apr. 2011 - Jan. 2013

- Conducted maintenance of military weapons and led a squad as a squad leader; honored as a distinguished soldier.