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 for recognizing and synthesizing 3D objects. In this area, I applied Machine Learning (Deep Learning) algorithms for Augmented / Virtual Reality and Smart Factory.

Education

Purdue University   *West Lafayette, IN, USA*

PHD IN ELECTRICAL AND COMPUTER ENGINEERING   *Aug. 2018 - PRESENT*

- Advisor: Professor Karthik Ramani

Yonsei University   *Seoul, South Korea*

BS IN MECHANICAL ENGINEERING   *Mar. 2010 - Feb. 2017*

- Advisor: Professor Soo-Hong Lee
- 2011-2013, 2-year military service

Skills

Programming	Python, Matlab, C/C++, SQL, JavaScript, HTML, CSS, PHP
Frameworks	TensorFlow, PyTorch, Keras, ROS, OpenCV
Software	Creo Parametric, SolidWorks, HyperWorks, GAZEBO

Publications and Patents

Conference Proceedings

- [**C4**][**PDF**] **H. G. Chi**, S. Kim, X. Hu, Q. Huang, and Karthik Ramani. A Large-scale Mechanical Components Benchmark for Deep Neural Networks. In proceedings of the 16th *European Conference on Computer Vision (ECCV)*, 2020, accepted.
- [**C3**][**PDF**] S. Kim, **H. G. Chi**, and Karthik Ramani. First-Person View Hand Segmentation of Multi-Modal Hand Activity Video Dataset. In proceedings of the 31st *British Machine Vision Conference (BMVC)*, 2020, accepted.
- [**C2**][**PDF**] H. Hwang, **H. G. Chi**, S. H. Lee. A Research about 3D Design Data Classification with 3D Convolutional Neural Network. In *Proceedings of the Korean Computational Design and Engineering Conference*, pp. 441-442, 2017
- [**C1**][**PDF**] M. H. Woo, S. H. Kim, **H. G. Chi**, M. W. Park, J. K. Kim and S. H. Lee. Development of Web-based, Module Structure Platform for Surgical Workflow Management. In *Proceedings of the Korean Computational Design and Engineering Conference*, pp. 439-441, 2016

Journal Papers

- [**J3**][**PDF**] S. Kim, **H. G. Chi** and Karthik Ramani. Object synthesis by learning part geometry with surface and volumetric representations. In *Computer-Aided Design*, under review.
- [**J2**][**PDF**] S. Kim, N. Winovich, **H. G. Chi**, G. Lin, and K. Ramani. Latent transformations neural network for object view synthesis. In *The Visual Computer*, pp. 1-15, 2019
- [**J1**][**PDF**] H. T. Hwang, **H. G. Chi**, N. K. Kang, H. B. Kong and Soo-Hong Lee. An Evaluation Methodology for 3D Deep Neural Network using Visualization in 3D Data Classification. In *Journal of Mechanical Science and Technology (JMST)*, 33(3), pp. 1333-1339, 2019

Patents

- [**P1**][**PDF**] **H. G. Chi**. *Computer Input Automation System*. KR Patent (2017): 10-1745330.

Working Experience

Software Engineer and CEO   *Seoul, South Korea*

NEIL LAB CORPORATION   *Sep. 2016 - Dec. 2017*

- Developed an office automation system using Python specifically for automating tasks such as sending an e-mail or issuing receipts, and designed a back-end system and database for customer web-service which automatically scrap and integrate customer's financial and personal data. (*Relevant patent:* [**P1**])
- Founded and led a startup company as a CEO for a year and also worked as a Python developer. The company was funded $ 30,000 by the SeongNam Industry Promotion Agency.

Mechanic and Squad leader   *Inje, South Korea*

REPUBLIC OF KOREA ARMY   *Apr. 2011 – Jan. 2013*

- Maintained military weapons and equipment including firearms and vehicles.
- Led a squad as a squad leader; honored as a distinguished soldier.