

# 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 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

<b>Language</b>	Python, Matlab, C/C++, SQL, JavaScript, HTML, CSS, PHP
<b>Machine/Deep Learning</b>	PyTorch, TensorFlow, Keras
<b>Web Programming</b>	MySQL/mongoDB, Flask/Node.js
<b>CAD Tool</b>	Creo Parametric, SolidWorks, AutoCAD
<b>ETC</b>	GAZEBO, ROS

## Publications and Patents

### Conference Proceedings

- [C2][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.
- [C1][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.

### Journal Papers

- [J2][PDF] S. Kim, H. G. Chi and Karthik Ramani. Object synthesis by learning part geometry with surface and volumetric representations. In *Computer-Aided Design*, in revision.
- [J1][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

- Found and lead a start-up company as a CEO and Software Engineer. The company was funded \$ 30,000 by the SeongNam Industry Promotion Agency.
- Develop an office automation system specifically for automating office tasks such as sending an e-mail or issuing receipts.
- 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])

### Mechanic and Squad leader

Inje, South Korea

REPUBLIC OF KOREA ARMY

Apr. 2011 - Jan. 2013

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