Hyung-gun **Chi**

Master Student

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Education

Purdue University — *West Lafayette, IN, USA*

Master of Science in Mechanical Engineering — *Aug. 2018 - PRESENT*

Yonsei University — *Seoul, South Korea*

Bachelor of Science in Mechanical Engineering — *Mar. 2010 - Feb. 2017*

Skills

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

Frameworks ROS, TensorFlow, Keras, Caffe

Software Creo Parametric, SolidWorks, AutoCAD, HyperWorks

Publications

Journal Papers

- S. Kim, N. Winovich, **H. G. Chi**, G. Lin and and Karthik Ramani. "Latent Transformations Neural Network for Object View Synthesis" (2019) *International Journal of Computer Graphics*, submitted.
- L.Paredes, X. Qian, **H. G. Chi** and Karthik Ramani. "ControllAR: Design and Fabrication of a Universal Parametric Low-Profile Hand Wearable for Augmented Reality Interactions" (2019) *Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT)*, under revision.
- 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" (2018) *Journal of Mechanical Science and Technology (JMST)*, accepted.

Conferences Papers

- S. Kim, **H. G. Chi** and Karthik Ramani. "FuseNet:Fusing surface and volumetric representations for 3D Shape Synthesis and Analysis" (2019) *International Conference on Computer Vision (ICCV)*, submitted.

Working Experience

NEIL LAB Corporation — *Seoul, South Korea*

Co-founder & Python Developer — *Sep. 2016 - Aug. 2017*

- Founded the start-up company with more than 20 employees and led and managed the company as a CEO
- Developed automation program using Python for an office platform for a tax office to enhance the office's work efficiency and customer service

Research Experience

Engineering Shape Benchmark (ESB) — *West Lafayette, IN*

Graduate Assistant, C-design lab — *Jan. 2019 - Present*

- Collected Engineering shape with web-scrapper and expanded the data using Creo Parametric API to build a database, and analyzed volumetric and surface information for 3D shape learning.

Latent Transformation Neural Network (LTNN) — *West Lafayette, IN*

Graduate Assistant, C-design lab — *Aug. 2018 - Feb. 2019*

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

Interventional Generative Network (IGN) — *West Lafayette, IN*

Graduate Assistant, C-design lab — *Aug. 2018 - Present*

- Developed the GAN model which generate 3D objects given a discrete category condition and continuous instance-level attributes.

Visual Programming Language for Mobile Robots and IoT Nodes (VIPO) — *West Lafayette, IN*

Graduate Assistant, C-design lab — *Aug. 2018 - Present*

- Proposed a web-based visual and spatial programming language that allows novice users and small industries to program mobile robots and IoT Nodes to execute planned tasks

ControllAR — *West Lafayette, IN*

Graduate Assistant, C-design lab — *Aug. 2018 - Dec. 2018*

- Proposed a parametrizing interface, simple and accessible fabrication workflow with no soldering or sewing involved, and a pressure sensor using a soft piezoresistive elastomer material.

3D Object Classification Model Evaluation — *Seoul, South Korea*

Research Assistant, Knowledge-Based Design lab — *Feb. 2016 – Jul. 2017*

- Proposed a method which evaluates 3D neural network models using the visualization based on the decomposition of a model's predictions to apply the models in the field of mechanical design and manufacturing.