

Hyungjin Chung

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Research interests Deep Learning, Inverse problems, Computational Imaging, MR reconstruction

Education

KAIST	Daejeon, Korea
PhD in Bio & Brain Engineering	2021.03 – Present
Advisor: Professors Jong Chul Ye	

KAIST	Daejeon, Korea
MA in Bio & Brain Engineering	2019.03 – 2021.02
Thesis: TomoGAN: Unsupervised Learning-based Reconstruction of Tomography	
Advisor: Professors Jong Chul Ye	

Korea University	Seoul, Korea
BA in Biomedical Engineering	2015.03 – 2019.02

Honors and scholarships

KAIST Scholarship	2021.02 - Present
Korea Government Scholarship	2019.03 - 2021.02

Publications

Two-Stage Deep Learning for Accelerated 3D Time-of-Flight MRA without Matched Training Data
[Hyungjin Chung*](#), Eunju Cha, Leonard Sunwoo, Jong Chul Ye
Medical Image Analysis, 2021. (***First author**)

Deep learning STEM-EDX tomography of nanocrystals
Yoseb Han*, Jaeduck Jang*, Eunju Cha*, Junho Lee*, [Hyungjin Chung*](#),
Myoungcho Jeong, Tae-Gon Kim, Byeong Gyu Chae, Hee Goo Kim, Shinae Jun,
Sungwoo Hwang, Eunha Lee, Jong Chul Ye
Nature Machine Intelligence, 2021. (***First author**)
Selected as 2021 March Issue Cover

Unpaired training of deep learning tMRA for flexible spatio-temporal resolution
Eunju Cha, [Hyungjin Chung](#), Eung Yeop Kim, Jong Chul Ye.
IEEE Transactions on Medical Imaging, 2020.

Unpaired deep learning for accelerated MRI using optimal transport driven cycleGAN

Gyutaek Oh, Byeongsu Sim, [Hyungjin Chung](#), Leonard Sunwoo, Jong Chul Ye.
IEEE Transactions on Computational Imaging, 2020.

Preprints

Unsupervised Missing Cone Deep Learning in Optical Diffraction Tomography

[Hyungjin Chung](#)^{*}, Jaeyoung Huh^{*}, Geon Kim, Yong Keun Park, Jong Chul Ye
arXiv preprint arXiv:2003.13096 (***First author**)

A Deep Learning Model for Diagnosing Gastric Mucosal Lesions Using Endoscopic Images: Development, Validation, and Method Comparison

Joon Yeul Nam^{*}, [Hyungjin Chung](#)^{*}, Kyu Sung Choi^{*}, Hyuk Lee^{*},
Seung Jun Han, Tae Jun Kim, Hosim Soh, Eun Kang, Soo-Jeong Cho,
Jong Chul Ye, Jong Pil Im, Sang Gyun Kim, Yoon Jun Kim, Joo Sung Kim, Jung-
Hwan Yoon, Hyunsoo Chung, Jeong-Hoon Lee
RSSN (***First author**)

International Conference

Deep learning fast MRI using channel attention in magnitude domain

Joonhyung Lee^{*}, Hyunjong Kim^{*}, [Hyungjin Chung](#)^{*}, Jong Chul Ye
IEEE International Symposium on Biomedical Imaging, 2020.
(***First author**)

Unsupervised Merge-Residual Learning for Time-of-Flight MRI

[Hyungjin Chung](#)^{*}, Eunju Cha, Leonard Sunwoo, Jong Chul Ye
IEEE International Symposium on Biomedical Imaging Workshop, 2020.
(***First author**)

Patent

Unsupervised deep learning method for tomography for complete removal of missing cone artifact and apparatus therefore

Jong Chul Ye, [Hyungjin Chung](#), JaeYoung Huh
Korea patent application, 2020.

Two-Stage unsupervised learning method for 3D Time-of-flight MRA reconstruction and the apparatus therefore

Jong Chul Ye, [Hyungjin Chung](#), Eunju Cha, Leonard Sunwoo
Korea patent application, 2020.

Research experience

Unsupervised deep learning for compressed sensing MRI reconstruction

KAIST 2020.04 – 2021.02
Research project conducted in collaboration with Seoul National University
Bundang Hospital.

Deep learning-based performance prediction of deep learning

KAIST

2020.03 – 2021.02

Project presented in VRPGP 2020

Development of reconstruction algorithm of STEM-EDX tomography

Samsung Electronics

2019.12 – 2020.11

Teaching experience

Teaching assistant, KAIST

Fall 2020

BiS 452: Biomedical Imaging

Teaching assistant, KAIST

Spring 2020

BiS 400, MAS 480 : Advanced Intelligence

Teaching assistant, KAIST

Fall 2019

BiS 452: Biomedical Imaging

Teaching assistant, KAIST

Spring 2020

BiS 301, : Bioengineering Laboratory I

Skills

Deep Learning Framework

PyTorch, Tensorflow.

Programming

Python, C++, MATLAB.