

Yohan Jun

POSTDOCTORAL RESEARCH FELLOW, PH.D.

Athinoula A. Martinos Center for Biomedical Imaging, Bldg 149 13th St Rm 2301, Charlestown MA 02129

☎ 1-(617)-309-9938 | ✉ yjun@mgh.harvard.edu | 🏠 yohan-jun.github.io | 🌐 <https://scholar.google.com/citations?user=rSICtLYAAAAJ&hl=en>

Research Interests

Machine/Deep Learning	Inverse Problem, Image Reconstruction, Self-Supervised/Zero-Shot Learning
Magnetic Resonance Imaging	Fast Magnetic Resonance Imaging (MRI), Image Reconstruction, Rapid Quantitative Mapping
Deep Learning for Automatic Diagnosis	Automatic Detection, Segmentation, and Diagnosis using Medical Images

Education

Yonsei University

PH.D. IN ELECTRICAL & ELECTRONIC ENGINEERING

Seoul, S.Korea

Mar. 2016 - Feb. 2022

- **Thesis:** "Model-based Deep Learning Reconstruction Methods for Fast Magnetic Resonance Imaging"
- **Scholarship:** Brain Korea 21 Plus Outstanding Student Fellow Scholarship of Korea Research Foundation

Yonsei University

B.S. IN ELECTRICAL & ELECTRONIC ENGINEERING

Seoul, S.Korea

Mar. 2012 - Feb. 2016

- **Scholarship:** National Scholarship for Science & Engineering of Korea Student Aid Foundation

Research Experience

Athinoula A. Martinos Center for Biomedical Imaging

RESEARCH FELLOW @ ATHINOULA A. MARTINOS CENTER FOR BIOMEDICAL IMAGING, MASSACHUSETTS GENERAL HOSPITAL (MGH), AND HARVARD MEDICAL SCHOOL (HMS), **ADVISOR: PROF. BERKIN BILGIC, PROF. MICHAEL GEE**

Boston, US

Mar. 2022 - Now

- **Accelerating Quantitative MRI**
 1. **Subspace Reconstruction for Multiparametric Mapping:**
 - Developed a zero-shot deep subspace reconstruction network (**Zero-DeepSub**) for fast multiparametric quantitative MRI.
 2. **Rapid Quantitative MRI:**
 - Developed a self-supervised learning scheme for multiparametric mapping using QALAS (**SSL-QALAS**).
- **Rapid and Motion-Robust Fetal and Pediatric Imaging**
 - **Fast Quantitative/Synthetic Imaging:** Developing a fast and motion-robust quantitative and synthetic fetal/pediatric MR imaging.

Yonsei University

RESEARCH ASSISTANT @ MEDICAL ARTIFICIAL INTELLIGENCE LAB, **ADVISOR: PROF. DOSIK HWANG**

Seoul, S.Korea

Jan. 2016 - Feb. 2022

- **Accelerating MR Imaging with Deep Learning Techniques**
 1. **Accelerating MRI:**
 - Developed a joint deep model-based MR image and coil sensitivity reconstruction network (**Joint-ICNet**) for fast MRI.
 - Validated domain-transform manifold learning in phase-encoding direction for accelerating cartesian MRI (**DOTA-MRI**).
 - Implemented cross-domain CNNs (**KIKI-net**) for reconstructing undersampled MR images.
 2. **Rapid MR Parameter Mapping:** Developed a deep model-based MR parameter mapping network (**DOPAMINE**) for a fast T1 mapping.
 3. **Parallel Imaging in TOF-MRA:** Developed a deep multistream CNNs (**DPI-net**) for parallel imaging in TOF-MRA.
- **Computer-aided Diagnosis (CAD) for Brain Tumors**
 1. **Metastasis:** Developed a deep learning model for automatic detection and segmentation of brain metastases.
 2. **Meningioma:** Implemented meningioma segmentation and grading models using two-stage deep learning models.
 3. **Glioblastoma:** Developed an automatic deep-learning-based segmentation model for glioblastoma analysis.
- **MRI Applications**
 1. **Standardization of Quantitative MRI:** Developed a deep-learning-based model for standardization of MOLLI T1 mapping.
 2. **Increasing MRI SNR:** Analyzed a denoising method based on tissue characteristics for High-SNR multiple T2(*)-contrast MRI.
 3. **MRI-compatible Sensor:** Validated a megahertz-wave-transmitting conducting polymer electrode (MRI-compatible pressure sensor).

Philips Korea

INTERNSHIP

Seoul, S.Korea

Oct. 2017 - Dec. 2017

- Intern (Medical Image Generation using Deep Learning Algorithms)

Philips Korea & Gyrotools

COURSE CERTIFICATE

- Philips Pulse Programming Course

Seoul, S.Korea

Sep. 25-30. 2017

Teaching Experience

Yonsei University

GUEST LECTURER, TEACHING ASSISTANT

- **Introduction Artificial Intelligence**
 - Presented a lecture on principles of deep learning and convolutional neural networks

GUEST LECTURER, TEACHING ASSISTANT

- **Medical Imaging Artificial Intelligence**
 - Presented a lecture on MR image reconstruction using deep learning methods

GUEST LECTURER, TEACHING ASSISTANT

- **Medical Artificial Intelligence**
 - Presented a lecture on principles of MRI and reconstruction methods for fast MRI

TEACHING ASSISTANT

- **Introduction to Bioengineering for Electrical and Electronic Engineering**

TEACHING ASSISTANT

- **Electrical and Electronic Engineering Capstone Design**

Seoul, S.Korea

Sep. 2021 - Dec. 2021

Mar. 2021 - Jun. 2021

Sep. 2020 - Dec. 2020

Mar. 2018 - Jun. 2018

Mar. 2017 - Jun. 2017

Honors & Awards

INTERNATIONAL

2023	ISMRM Summa Cum Laude , The ISMRM 31st Annual Meeting	Toronto, Canada
2021	1st Rank , Cross-Modality Domain Adaptation for Medical Image Segmentation (crossMoDA-2021 challenge)	Virtual Conference
2021	ISMRM Magna Cum Laude (1) , The ISMRM 29th Annual Meeting	Virtual Conference
2021	ISMRM Magna Cum Laude (2) , The ISMRM 29th Annual Meeting	Virtual Conference
2020	3rd Rank , fastMRI Challenge 2020, Facebook AI Research & NYU Langone Health	Virtual Conference
2020	ISMRM Summa Cum Laude , The ISMRM 28th Annual Meeting	Virtual Conference
2020	ISMRM The Poster Award of 2nd Place (Silver) , 2020 ISMRM Workshop on Data Sampling & Image Reconstruction	Sedona, US
2019	4th Rank , fastMRI Challenge 2019, Facebook AI Research & NYU Langone Health	Vancouver, Canada
2017	ISMRM Summa Cum Laude , The ISMRM 25th Annual Meeting	Hawaii, US

DOMESTIC

2021	Excellence Award , Medical Artificial Intelligence Datathon 2021, Ministry of Science and ICT and National Information Society Agency	Seoul, S.Korea
2021	Excellence Award , Hackathon of Development of AI-based Image Diagnosis using Medical Big Data 2021, Korea Testing Laboratory (KTL)	Seoul, S.Korea
2021	Best Paper Award , Graduate Student Paper Award, Yonsei University	Seoul, S.Korea
2019	Participation Prize , Samsung Humantech Paper Award (first author)	Seoul, S.Korea
2019	1st Rank and Grand Prize , HeLP Challenge 2018, Brain Tumor Segmentation Contest	Seoul, S.Korea
2018	Participation Prize , Samsung Humantech Paper Award (co-author)	Seoul, S.Korea
2017	Grand Prize , Yonsei Junior Convergence Science	Seoul, S.Korea

Scholarship

2023	ISMRM Trainee Stipend , ISMRM Workshop on Data Sampling and Image Reconstruction	US
2021	Dissertation Fellowship , Graduate Students Idea Incubation Fund, Yonsei University	S.Korea
2021	Academy Research Fellowship , Graduate Students Idea Incubation Fund, Yonsei University	S.Korea
2021	Best Paper Award Scholarship , Graduate Student Paper Award, Yonsei University	S.Korea
2020	ISMRM Trainee Stipend , ISMRM Workshop on Data Sampling and Image Reconstruction	US
2017-2019	ISMRM Educational Stipend , ISMRM	US
2019	Brain Korea 21 Plus Outstanding Student Fellow Scholarship , Korea Research Foundation	S.Korea
2018	Teaching Assistant Scholarship , Yonsei Univeristy	S.Korea
2017-2020	Brain Korea 21 Plus Scholarship , Korea Research Foundation	S.Korea
2016	Research Assistant Scholarship , Yonsei Univeristy	S.Korea
2012-2015	National Scholarship for Science & Engineering , Korea Student Aid Foundation	S.Korea

Invited Talks

Self-Supervised Learning for Rapid Quantitative MRI	Boston, US
ATHINOULA A. MARTINOS CENTER FOR BIOMEDICAL IMAGING	May. 2023
• Athinoula A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital	
Deep Model-based MR Parameter Mapping Network (DOPAMINE) for Fast MR Reconstruction	Seoul, S.Korea
34TH KSIIM CONFERENCE, 2020	Oct. 2020
• Korean Society of Imaging Informatics in Medicine	
Medical Imaging Research using Artificial Intelligence	Seoul, S.Korea
HUFS AIM LAB, 2020	Jan. 2020
• The Catholic University of Korea, Eunpyeong St. Mary's Hospital	

Presented Talks

Zero-DeepSub: Zero-Shot Deep Subspace Reconstruction for Multiparametric Quantitative MRI Using QALAS	Toronto, Canada
ISMRM ANNUAL MEETING, 2023	June. 2023
• International Society for Magnetic Resonance in Medicine (ISMRM) Annual Meeting, 2023	
Deep Subspace Reconstruction with Zero-Shot Learning for Multiparametric Quantitative MRI	Sedona, US
ISMRM WORKSHOP ON DATA SAMPLING AND IMAGE RECONSTRUCTION, 2023	Jan. 2023
• International Society for Magnetic Resonance in Medicine (ISMRM) on Data Sampling and Image Reconstruction, 2023	
Joint Reconstruction of MR Image and Coil Sensitivity Maps using Deep Model-based Network	Virtual Conference
ISMRM ANNUAL MEETING, 2021	May. 2021
• International Society for Magnetic Resonance in Medicine (ISMRM) Annual Meeting, 2021	
Deep Learning-based Automatic Detection and Segmentation of Brain Metastases Using Multi-Task Learning with 3D Black-Blood and GRE Imaging	Virtual Conference
ISMRM ANNUAL MEETING, 2021	May. 2021
• International Society for Magnetic Resonance in Medicine (ISMRM) Annual Meeting, 2021	
Deep Model-based MR Parameter Mapping Network (DOPAMINE) for Fast MR Reconstruction	Virtual Conference
ISMRM ANNUAL MEETING, 2020	Aug. 2020
• International Society for Magnetic Resonance in Medicine (ISMRM) Annual Meeting, 2020	
Deep Convolutional Neural Network for Acceleration of Magnetic Resonance Angiography (MRA)	Hawaii, US
ISMRM ANNUAL MEETING, 2017	Apr. 2017
• International Society for Magnetic Resonance in Medicine (ISMRM) Annual Meeting, 2017	

Publications - Preprints

Improved Multi-Shot Diffusion-Weighted MRI with Zero-Shot Self-Supervised Learning Reconstruction

2023

J CHO, Y JUN, X WANG, C KOBAYASHI, B BILGIC

• *arXiv preprint arXiv:2308.05103*

Zero-DeepSub: Zero-Shot Deep Subspace Reconstruction for Rapid Multiparametric Quantitative MRI Using 3D-QALAS

2023

Y JUN, Y AREFEEN, J CHO, S FUJITA, X WANG, PE GRANT, B GAGOSKI, C JAIMES, MS GEE*, B BILGIC*

• *arXiv preprint arXiv:2307.01410*

SDC-UDA: Volumetric Unsupervised Domain Adaptation Framework for Slice-Direction Continuous Cross-Modality Medical Image Segmentation

2023

H SHIN, H KIM, S KIM, Y JUN, T EO, D HWANG

• *arXiv preprint arXiv:2305.11012*

SSL-QALAS: Self-Supervised Learning for Rapid Multiparameter Estimation in Quantitative MRI Using 3D-QALAS

2023

Y JUN, J CHO, X WANG, M GEE, PE GRANT, B BILGIC*, B GAGOSKI*

• *arXiv preprint arXiv:2302.14240*

COSMOS: Cross-Modality Unsupervised Domain Adaptation for 3D Medical Image Segmentation based on Target-aware Domain Translation and Iterative Self-Training

2022

H SHIN, H KIM, S KIM, Y JUN, T EO, D HWANG

• *arXiv preprint arXiv:2203.16557*

Self-Training Based Unsupervised Cross-Modality Domain Adaptation for Vestibular Schwannoma and Cochlea Segmentation

2021

H SHIN, H KIM, S KIM, Y JUN, T EO, D HWANG

• *arXiv preprint arXiv:2109.10674*

Results of the 2020 fastMRI Challenge for Machine Learning MR Image Reconstruction

2020

MJ MUCKLEY, B RIEMENSCHNEIDER, ..., Y JUN, H SHIN, D HWANG, ..., FLORIAN KNOLL

• *arXiv preprint arXiv:2012.06318*

Publications - Peer-Review Journal

Zero-DeepSub: Zero-Shot Deep Subspace Reconstruction for Rapid Multiparametric Quantitative MRI Using 3D-QALAS

2023

Y JUN, Y AREFEEN, J CHO, S FUJITA, X WANG, PE GRANT, B GAGOSKI, C JAIMES, MS GEE*, B BILGIC*

• (Under Revision)

SSL-QALAS: Self-Supervised Learning for Rapid Multiparameter Estimation in Quantitative MRI Using 3D-QALAS

2023

Y JUN, J CHO, X WANG, M GEE, PE GRANT, B BILGIC*, B GAGOSKI*

• *Magnetic Resonance in Medicine*, 90(5):2019-2032

Deep learning referral suggestion and tumour discrimination using explainable artificial intelligence applied to multiparametric MRI

2023

H SHIN, JE PARK, Y JUN, T EO, J LEE, JE KIM, DH LEE, HH MOON, SI PARK, S KIM, D HWANG, HS KIM

• *European Radiology*, 33:5859-5870

Intelligent Noninvasive Meningioma Grading with a Fully Automatic Segmentation using Interpretable Multiparametric Deep Learning

2023

Y JUN*, YW PARK*, H SHIN*, Y SHIN, JR LEE, K HAN, SS AHN, SM LIM, D HWANG, SK LEE

• *Co-first Authors, *European Radiology*, 33:6124-6133

Ultrathin crystalline-silicon-based strain gauges with deep learning algorithms for silent speech interfaces

2022

T KIM*, Y SHIN*, K KANG*, K KIM*, G KIM*, Y BYEON*, ..., JR LEE, G SON, T KIM, Y JUN, ..., HG KANG, D HWANG, KJ YU

• *Nature Communications*, 13:5815

- Results of the 2020 fastMRI Challenge for Machine Learning MR Image Reconstruction** 2021
 MJ MUCKLEY*, B RIEMENSCHNEIDER*, ..., **Y JUN**, H SHIN, D HWANG, ..., FLORIAN KNOLL
 • *IEEE Transactions on Medical Imaging*, 40(9):2306-2317
- Deep model-based magnetic resonance parameter mapping network (DOPAMINE) for fast T1 mapping using variable flip angle method** 2021
Y JUN, H SHIN, T EO, T KIM, D HWANG
 • *Medical Image Analysis*, 70:102017
- Robust performance of deep learning for automatic detection and segmentation of brain metastases using three-dimensional black-blood and three-dimensional gradient echo imaging** 2021
 YW PARK*, **Y JUN***, Y LEE, K HAN, C AN, SS AHN, D HWANG, SK LEE
 • *Co-first Authors, *European Radiology*, 31:6686-6695
- The Latest Trends in Attention Mechanisms and Their Application in Medical Imaging** 2020
 H SHIN, J LEE, T EO, **Y JUN**, S KIM, D HWANG
 • *Journal of the Korean Society of Radiology*, 81(6):1305-1333
- Accelerating Cartesian MRI by domain-transform manifold learning in phase-encoding direction** 2020
 T EO*, H SHIN*, **Y JUN**, T KIM, D HWANG
 • *Medical Image Analysis*, 63:101689
- Parallel imaging in time-of-flight magnetic resonance angiography using deep multistream convolutional neural networks** 2019
Y JUN, T EO, H SHIN, T KIM, HJ LEE, D HWANG
 • *Magnetic Resonance in Medicine*, 81(6):3840-3853
- Megahertz-wave-transmitting conducting polymer electrode for device-to-device integration** 2019
 T KIM, G KIM, H KIM, HJ YOON, T KIM, **Y JUN**, TH SHIN, S KANG, J CHEON, D HWANG, BW MIN, W SHIM
 • *Nature Communications*, 10:653
- Deep-learned 3D black-blood imaging using automatic labelling technique and 3D convolutional neural networks for detecting metastatic brain tumors** 2018
Y JUN, T EO, T KIM, H SHIN, D HWANG, SH BAE, YW PARK, HJ LEE, BW CHOI, SS AHN
 • *Scientific Reports*, 8:9450
- KIKI-net: cross-domain convolutional neural networks for reconstructing undersampled magnetic resonance images** 2018
 T EO, **Y JUN**, T KIM, J JANG, HJ LEE, D HWANG
 • *Magnetic Resonance in Medicine*, 80(5):2188-2201
- High-SNR multiple T2 (*)-contrast magnetic resonance imaging using a robust denoising method based on tissue characteristics** 2017
 T EO, T KIM, **Y JUN**, H LEE, SS AHN, DH KIM, D HWANG
 • *Journal of Magnetic Resonance Imaging*, 45(6):1835-1845

Publications - Conference Papers

- Improved Multi-Shot Diffusion-Weighted MRI with Zero-Shot Self-Supervised Learning Reconstruction** 2023
 J CHO, **Y JUN**, X WANG, C KOBAYASHI, B BILGIC
 • *International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI)*, pp.457-466
- SDC-UDA: Volumetric Unsupervised Domain Adaptation Framework for Slice-Direction Continuous Cross-Modality Medical Image Segmentation** 2023
 H SHIN, H KIM, S KIM, **Y JUN**, T EO, D HWANG
 • *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, pp.7412-7421

Evaluation of the Robustness of Learned MR Image Reconstruction to Systematic Deviations Between Training and Test Data for the Models from the fastMRI Challenge

2021

PM JOHNSON, ..., H SHIN, Y JUN, T EO, S KIM, T KIM, D HWANG, ..., F KNOLL

- *International Workshop on Machine Learning for Medical Image Reconstruction (MLMIR)*, pp. 25-34

Joint Deep Model-based MR Image and Coil Sensitivity Reconstruction Network (Joint-ICNet) for Fast MRI

2021

Y JUN, H SHIN, T EO, D HWANG

- *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, pp. 5266-5275

Translation of 1D Inverse Fourier Transform of K-space to an Image Based on Deep Learning for Accelerating Magnetic Resonance Imaging

2018

T EO, H SHIN, T KIM, Y JUN, D HWANG

- *International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI)*, pp. 241-249

Publications - Conference Abstracts

Zero-DeepSub: Zero-Shot Deep Subspace Reconstruction for Multiparametric Quantitative MRI Using QALAS

2023

Y JUN, Y AREFEEN, J CHO, X WANG, M GEE, B GAGOSKI, B BILGIC

- [***Oral Presentation**] [***Summa Cum Laude**] *International Society for Magnetic Resonance in Medicine (ISMRM)*

SSL-QALAS: Self-Supervised Learning for Multiparametric Quantitative MRI Using QALAS

2023

Y JUN, J CHO, X WANG, M GEE, PE GRANT, B BILGIC, B GAGOSKI

- *International Society for Magnetic Resonance in Medicine (ISMRM)*

Improved T1 and T2 mapping in 3D-QALAS using temporal subspaces and Cramer-Rao-bound flip angle optimization enabled by auto-differentiation

2023

Y AREFEEN, Y JUN, B GAGOSKI, B BILGIC, E ADALSTEINSSON

- [***Oral Presentation**] *International Society for Magnetic Resonance in Medicine (ISMRM)*

Self-Supervised Deep Learning Reconstruction for Highly Accelerated Diffusion Imaging

2023

A VURANKAYA, Y JUN, J CHO, B BILGIC

- [***Oral Presentation**] *International Society for Magnetic Resonance in Medicine (ISMRM)*

Model-based phase-difference reconstruction for accelerated phase-based T2 mapping

2023

X WANG, J CHO, Y JUN, B GAGOSKI, B BILGIC

- *International Society for Magnetic Resonance in Medicine (ISMRM)*

VUDU-SAGE: Efficient T2 and T2* Mapping using Joint Reconstruction for Motion-Robust, Distortion-Free, Multi-Shot, Multi-Echo EPI

2023

J CHO, TH KIM, AJL BERMAN, Y JUN, X WANG, B GAGOSKI, B BILGIC

- *International Society for Magnetic Resonance in Medicine (ISMRM)*

Deep Subspace Reconstruction with Zero-Shot Learning for Multiparametric Quantitative MRI

2023

Y JUN, Y AREFEEN, J CHO, X WANG, M GEE, B GAGOSKI, B BILGIC

- [***Oral Presentation**] *International Society for Magnetic Resonance in Medicine (ISMRM) Workshop on Data Sampling and Image Reconstruction*

Improved T1 and T2 Mapping in 3D-QALAS Using Temporal Subspaces and Flip Angle Optimization Enabled by Auto-Differentiation

2023

Y AREFEEN, B GAGOSKI, Y JUN, B BILGIC, E ADALSTEINSSON

- *International Society for Magnetic Resonance in Medicine (ISMRM) Workshop on Data Sampling and Image Reconstruction*

Model-Based Phase-Difference Reconstruction for Accelerated Phase-Based T2 Mapping

2023

X WANG, J CHO, Y JUN, B GAGOSKI, B BILGIC

- *International Society for Magnetic Resonance in Medicine (ISMRM) Workshop on Data Sampling and Image Reconstruction*

VUDU-SAGE: Efficient T2 and T2* Mapping Using Joint Reconstruction for Motion-Robust, Distortion-Free, Multi-Shot, Multi-Echo EPI

2023

J CHO, TH KIM, AJL BERMAN, Y JUN, X WANG, B GAGOSKI, B BILGIC

- *International Society for Magnetic Resonance in Medicine (ISMRM) Workshop on Data Sampling and Image Reconstruction*

- Interpretable Meningioma Grading and Segmentation with Multiparametric Deep Learning** 2022
Y JUN*, YW PARK*, H SHIN, Y SHIN, JR LEE, K HAN, SM LIM, SK LEE, SS AHN, D HWANG
 • *International Society for Magnetic Resonance in Medicine (ISMRM)*, pp. 3064
- Joint Generation of Multi-contrast Magnetic Resonance Images and Segmentation Map Using StyleGAN2-based Generative Network** 2022
 G SON, T EO, Y JUN, H SHIN, D HWANG
 • [***Oral Presentation**], *International Society for Magnetic Resonance in Medicine (ISMRM)*, pp. 0102
- Arbitrary Missing Contrast Generation Using Multi-Contrast Generative Network with An Encoder Network** 2022
 G SON, Y JUN, S KIM, D HWANG, T EO
 • *International Society for Magnetic Resonance in Medicine (ISMRM)*, pp. 4308
- Deep residual network with data consistency for subsampled Fourier ptychographic microscopy** 2022
 HG KIM, KW KIM, KC LEE, TJ EO, K LEE, Y JUN, SA LEE, D HWANG
 • *Quantitative Phase Imaging VIII*, p. PC119700B. SPIE
- Deep Learning-based Automatic Detection and Segmentation of Brain Metastases Using Multi-Task Learning with 3D Black-Blood and GRE Imaging** 2021
Y JUN*, YW PARK*, Y LEE, K HAN, C AN, SK LEE, SS AHN, D HWANG
 • [***Oral Presentation**] [***Magna Cum Laude**] *International Society for Magnetic Resonance in Medicine (ISMRM)*, pp. 0662
- Joint Reconstruction of MR Image and Coil Sensitivity Maps using Deep Model-based Network** 2021
Y JUN, H SHIN, T EO, D HWANG
 • [***Oral Presentation**] [***Magna Cum Laude**] *International Society for Magnetic Resonance in Medicine (ISMRM)*, pp. 0206
- Results of the 2020 fastMRI Brain Reconstruction Challenge** 2021
 B RIEMENSCHNEIDER, ..., Y JUN, H SHIN, D HWANG, F KNOLL
 • [***Oral Presentation**] [***Summa Cum Laude**] *International Society for Magnetic Resonance in Medicine (ISMRM)*, pp. 0063
- Explainable And Fully Automated Clinical Referral Suggestion For Mass Like Lesions In The Brain Using Multi-contrast MRI** 2021
 H SHIN, JE PARK, Y JUN, HS KIM, D HWANG
 • *Radiological Society of North America (RSNA)*, pp. SDP-NR-16
- Deep Model-based MR Parameter Mapping Network (DOPAMINE) for Fast MR Reconstruction** 2020
Y JUN, H SHIN, T EO, T KIM, D HWANG
 • [***Oral Presentation**] [***Summa Cum Laude**] *International Society for Magnetic Resonance in Medicine (ISMRM)*, pp. 0988
- Deep Model-Based Network for Fast MR Parameter Map Reconstruction** 2020
Y JUN, H SHIN, T EO, T KIM, D HWANG
 • [***Poster Award**] *International Society for Magnetic Resonance in Medicine (ISMRM) Workshop on Data Sampling and Image Reconstruction*
- Parallel Imaging in Time-of-Flight Magnetic Resonance Angiography Using Deep Multi-Stream Convolutional Neural Networks** 2019
Y JUN, T EO, H SHIN, T KIM, H LEE, D HWANG
 • *International Society for Magnetic Resonance in Medicine (ISMRM)*, pp. 4659
- Parallel Imaging based on k-x Domain Interpolation using Deep Neural Networks** 2019
 H SHIN, T EO, Y JUN, T KIM, H LEE, D HWANG
 • *International Society for Magnetic Resonance in Medicine (ISMRM)*, pp. 4660
- Deep-learned 3D black-blood imaging using automatic labeling technique and 3D convolutional neural networks for detection of metastatic brain tumors** 2018
Y JUN, T EO, T KIM, H SHIN, D HWANG, S BAE, Y PARK, H LEE, B CHOI, S AHN
 • *International Society for Magnetic Resonance in Medicine (ISMRM)*, pp. 4857

Brain Vessel Extraction without MRA / V using Deep Convolutional Neural Network	2018
H SHIN, Y JUN , T KIM, T EO, S AHN, D HWANG	
• <i>International Society for Magnetic Resonance in Medicine (ISMRM)</i> , pp. 3171	
Automatic Selection of Optimal Regularization Parameters in Compressed Sensing using No Reference Magnetic Resonance Image Quality Assessment	2018
K BANG, J JANG, Y JUN , H JANG, H LEE, D HWANG	
• <i>International Society for Magnetic Resonance in Medicine (ISMRM)</i> , pp. 2816	
Deep Sinogram Learning for Radial MRI: Comparison with k-space and Image Learning	2018
T KIM, T EO, D PARK, Y JUN , D HWANG	
• <i>International Society for Magnetic Resonance in Medicine (ISMRM)</i> , pp. 2799	
Reconstruction of brain vessel signals from undersampled time-of-flight magnetic resonance angiography using deep learning	2018
Y JUN , T EO, H SHIN, T KIM, HJ LEE, H JANG, D HWANG	
• <i>The 21th Annual Meeting of the the Korean Society for Brain and Neural Sciences (KSBNS)</i> , pp. 1097	
Deep Convolutional Neural Network for Acceleration of Magnetic Resonance Angiography (MRA)	2017
Y JUN , T EO, T KIM, J JANG, D HWANG	
• [*Oral Presentation] [*Summa Cum Laude] <i>International Society for Magnetic Resonance in Medicine (ISMRM)</i> , pp. 0686	
Cascaded Convolutional Neural Network (CNN) for Reconstruction of Undersampled Magnetic Resonance (MR) Images	2017
T EO, Y JUN , T KIM, J JANG, D HWANG	
• [*Summa Cum Laude] <i>International Society for Magnetic Resonance in Medicine (ISMRM)</i> pp. 3974	

Patents

2022	Method And Device For Correcting Medical Image Using Phantom , Registered, 10-2481027	S.Korea
2022	Apparatus And Method For Reconstructing MR Parameter Map , Registered, 10-2352004	S.Korea
2021	Device And Method For Reconstructing Magnetic Resonance Image Thereof , Registered, 10-2233996	S.Korea
	Learning Apparatus and Method for Generating Encephaloma Discriminative Image, Apparatus and	
2018	Method for Generating Encephaloma Discriminative Image, and Recording Medium thereof , Registered, 10-1928213	S.Korea
2018	Device and Method for Reconstructing Undersampled Magnetic Resonance Image , Registered, 10-1886575	S.Korea

Skills

Programming Languages	Python, Matlab, Pytorch, Tensorflow/Keras, C/C++ Korean, English
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Activities

Reviewer	<ul style="list-style-type: none"> • IEEE Transactions on Medical Imaging (IEEE TMI) • IEEE Sensors Letters • Scientific Reports • Magnetic Resonance in Medicine • International Society for Magnetic Resonance in Medicine (ISMRM 2022-2023) • International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI 2020-2023)
Poster Facilitator	<ul style="list-style-type: none"> • International Society for Magnetic Resonance in Medicine (ISMRM 2021)
Membership	<ul style="list-style-type: none"> • Trainee Memmber of International Society for Magnetic Resonance in Medicine (ISMRM) • Quantitative MR • Pediatric MR
ISMRM Study Groups	<ul style="list-style-type: none"> • High Field Systems and Applications • MR of Cancer • MR Engineering

References

Michael S Gee

- Massachusetts General Hospital
- Professor, Deputy Chair of Radiology
- msgee@mgh.harvard.edu
- 1-617-732-5700

Berkin Bilgic

- Athinoula A. Martinos Center for Biomedical Imaging
- Assistant Professor
- bbilgic@mgh.harvard.edu
- 1-617-866-8740

Dosik Hwang

- Yonsei University
- Professor
- dosik.hwang@yonsei.ac.kr
- 82-2-2123-5771