Yohan **Jun**

Instructor/Faculty, Ph.D. of Radiology @ Harvard Medical School

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=rSlCtLYAAAAJ&hl=en

Research Interests

Advanced Neuroimaging with MRI — Accelerated Brain MRI, Rapid Distortion-Free Diffusion MRI, Rapid Quantitative MRI

Computational Algorithms for Medical Imaging — Inverse Problem, MR Image Reconstruction, Self-Supervised/Zero-Shot Learning

AI for Automatic Diagnosis of Brain Disorders — Automatic Diagnosis of Brain Tumors Using Deep Learning Algorithms

Education

Yonsei University — *Seoul, S.Korea*

Ph.D. in Electrical & Electronic Engineering — *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
- **Award:** Best Graduate Student Paper Award

Yonsei University — *Seoul, S.Korea*

B.S. in Electrical & Electronic Engineering — *Mar. 2012 - Feb. 2016*

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

Research Experience

Martinos Center and Pediatric Imaging Research Center at MGH — *Boston, US*

Instructor/Faculty @ Massachusetts General Hospital (MGH), and Harvard Medical School (HMS) — *Nov. 2024 - Now*

- **Rapid and Motion-Robust Fetal and Pediatric Imaging**
  - **Fast Quantitative/Synthetic Imaging:** Developed a fast and motion-robust quantitative and synthetic fetal/pediatric MR imaging.

Athinoula A. Martinos Center for Biomedical Imaging — *Boston, US*

Research Fellow @ Massachusetts General Hospital (MGH), and Harvard Medical School (HMS), **Advisors: Prof. Berkin Bilgic, Prof. Michael Gee** — *Mar. 2022 - Nov. 2024*

- **Accelerating Quantitative MRI**
  1. **Subspace Reconstruction for Multiparametric Mapping:**
     - Developed a zero-shot deep subspace reconstruction network (**Zero-DeepSub**) for fast multiparametric quantiative MRI.
  2. **Rapid Quantitative MRI:**
     - Developed a self-supervised learning scheme for multiparametric mapping using QALAS (**SSL-QALAS**).
  - **Fast/distortion-free dMRI:** Developed a fast and distortion-free diffusion MRI sequence (**PRIME**) using a phase-reversed interleaved multi-echo acquisition scheme.

Yonsei University — *Seoul, S.Korea*

Research Assistant @ Medical Artificial Intelligence Lab, **Advisor: Prof. Dosik Hwang** — *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 *Seoul, S.Korea*

Internship *Oct. 2017 - Dec. 2017*

- Intern (Medical Image Generation using Deep Learning Algorithms)

Philips Korea & Gyrotools *Seoul, S.Korea*

Course Certificate *Sep. 25-30. 2017*

- Philips Pulse Programming Course

Teaching Experience

Yonsei University *Seoul, S.Korea*

Guest Lecturer, Teaching Assistant *Sep. 2021 - Dec. 2021*

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

Guest Lecturer, Teaching Assistant *Mar. 2021 - Jun. 2021*

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

Guest Lecturer, Teaching Assistant *Sep. 2020 - Dec. 2020*

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

Teaching Assistant *Mar. 2018 - Jun. 2018*

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

Teaching Assistant *Mar. 2017 - Jun. 2017*

- **Electrical and Electronic Engineering Capstone Design**

Honors & Awards

International

2024	**ISMRM Junior Fellow**, The ISMRM 32nd Annual Meeting	*Singapore*
2024	**1st Place Winner, Best Oral Presentation**, The ISMRM 32nd Annual Meeting, Diffusion Study Group	*Singapore*
2024	**ISMRM Annual Meeting Program Committee (AMPC) Selected Abstract (Top 1%)**, The ISMRM 32nd Annual Meeting	*Singapore*
2024	**ISMRM Summa Cum Laude**, The ISMRM 32nd Annual Meeting	*Singapore*
2022-2023	**Distinguished Reviewer**, IEEE Transactions on Medical Imaging (IEEE TMI)	
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*

Grants

Rapid, Motion-Robust, and Low-Gadolinium MRI for Pediatric Brain Tumors — *National Institutes of Health (NIH)*

Role: co-PI — *2024-2027*

- NIH R21EB036105 (PIs: **Y. Jun**, C. Jaimes)

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

AI Improvement in Image Quality and Analysis in Research and Clinical Practice — *Hawaii, US*

ISMRM Pediatric MR Study Group Member-initiated Symposium — *May. 2025*

- International Society for Magnetic Resonance in Medicine (ISMRM)

Advanced neuroimaging using MRI: from quantitative MRI to diffusion MRI — *Seoul, S.Korea*

Brain Korea (BK) 21 Y-BASE R&E Institute — *May. 2024*

- Yonsei University, School of Electrical and Electronic Engineering

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

Efficient mesoscale multiparametric quantitative MRI using 3D-QALAS at 7T with self-supervised learning — *Hawaii, US*

ISMRM Annual Meeting, 2025 — *May. 2025*

- International Society for Magnetic Resonance in Medicine (ISMRM) Annual Meeting, 2025

Phase Reversed Interleaved Multi-Echo (PRIME) with phase, field map and motion navigators for highly accelerated distortion-free diffusion MRI — *Hawaii, US*

ISMRM Annual Meeting, 2025 — *May. 2025*

- International Society for Magnetic Resonance in Medicine (ISMRM) Annual Meeting, 2025

PRIME: Phase Reversed Interleaved Multi-Echo acquisition enables highly accelerated distortion-free diffusion MRI — *Singapore*

ISMRM Annual Meeting, 2024 — *May. 2024*

- International Society for Magnetic Resonance in Medicine (ISMRM) Annual Meeting, 2024

Rapid Pediatric Imaging with Zero-Shot Deep Subspace Reconstruction for Multiparametric Quantitative MRI — *Singapore*

ISMRM Annual Meeting, 2024 — *May. 2024*

- International Society for Magnetic Resonance in Medicine (ISMRM) Annual Meeting, 2024

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

PRIME: Phase Reversed Interleaved Multi-Echo acquisition enables highly accelerated distortion-free diffusion MRI — *2024*

Y Jun, Q Liu, T Gong, J Cho, S Fujita, X Yong, SY Huang, L Ning, A Yendiki, Y Rathi, B Bilgic

- *arXiv preprint arXiv:2409.07375*

NLCG-Net: A Model-Based Zero-Shot Learning Framework for Undersampled Quantitative MRI Reconstruction — *2024*

X Jian, **Y Jun**, J Cho, M Gao, X Yong, B Bilgic

- *arXiv preprint arXiv:2401.12004*

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

PRIME: Phase Reversed Interleaved Multi-Echo acquisition enables highly accelerated distortion-free diffusion MRI *2025*

Y Jun, Q Liu, T Gong, J Cho, S Fujita, X Yong, SY Huang, L Ning, A Yendiki, Y Rathi, B Bilgic

- *Magnetic Resonance in Medicine*, (under revision)

MIMOSA: Multi-parametric Imaging using Multiple-echoes with Optimized Simultaneous Acquisition for highly-efficient quantitative MRI *2025*

Y Chen, Y Jun, A Heydari, X Yong, J Kim, J Lee, H Liu, H Ye, B Gagoski, S Fujita*, B Bilgic*

- *Magnetic Resonance in Medicine*, (under revision)

Vendor-agnostic 3D multiparametric relaxometry improves cross-platform reproducibility *2025*

S Fujita, B Gagoski, JF Nielsen, M Zaitsev, Y Jun, J Cho, X Yong, Q Uhl, P Xu, E Milshteyn11, S Imam, Q Liu, Q Chen, O Afacan, JE Kirsch, Y Rathi, B Bilgic

- *Magnetic Resonance in Medicine*

Beyond the Conventional Structural MRI: Clinical Application of Deep Learning Image Reconstruction and Synthetic MRI of the Brain *2025*

Y Choi, JS Ko, JE Park, G Jeong, M Seo, Y Jun, S Fujita, B Bilgic

- *Investigative Radiology*, 60(1):27-42

Zero-DeepSub: Zero-Shot Deep Subspace Reconstruction for Rapid Multiparametric Quantitative MRI Using 3D-QALAS *2024*

Y Jun, Y Arefeen, J Cho, S Fujita, X Wang, PE Grant, B Gagoski, C Jaimes, MS Gee*, B Bilgic*

- *Magnetic Resonance in Medicine*, 91(6):2459-2482

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(9):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

Efficient mesoscale multiparametric quantitative MRI using 3D-QALAS at 7T with self-supervised learning *2025*

Y Jun, S Fujita, Yu Chen, A Mareyam, C Jaimes, MS Gee, B Gagoski, B Bilgic

- **[*Oral Presentation]** *International Society for Magnetic Resonance in Medicine (ISMRM)*, pp.0815

Phase Reversed Interleaved Multi-Echo (PRIME) with phase, field map and motion navigators for highly accelerated distortion-free diffusion MRI *2025*

Y Jun, Q Liu, T Gong, J Cho, S Fujita, X Yong, SY Huang, L Ning, A Yendiki, Y Rathi, B Bilgic

- **[*Oral Presentation]** *International Society for Magnetic Resonance in Medicine (ISMRM)*, pp.0514

MIMOSA: Multi-parametric Imaging using Multiple-echoes with Optimized Simultaneous Acquisition for highly-efficient quantitative MRI *2025*

Y Chen, **Y Jun**, A Heydari, X Yong, H Liu, H Ye, B Gagoski, B Bilgic, S Fujita

- **[*Oral Presentation] [*Magna Cum Laude]** *International Society for Magnetic Resonance in Medicine (ISMRM)*, pp.0812

Robust Nyquist ghost correction for high-resolution EPI using multishot dual-polarity GRAPPA reconstruction *2025*

Y Jiang, **Y Jun**, Q Liu, W Zhong, Y Rathi, H Guo, B Bilgic

- **[*Oral Presentation] [*Magna Cum Laude]** *International Society for Magnetic Resonance in Medicine (ISMRM)*, pp.1365

Vendor-Agnostic Joint Relaxometry and Myelin Water Fraction Mapping with B1 Correction *2025*

S Fujita, **Y Jun**, AD Klauser, GF Piredda, T Hilbert, C Ariyurek, E Milshteyn, Q Liu, IA Shaik, Y Rathi, M Zaitsev, JF Nielsen, C Jaimes, PE Grant, O Afacan, B Gagoski, B Bilgic

- **[*Oral Presentation]** *International Society for Magnetic Resonance in Medicine (ISMRM)*, pp.1104

Mesoscale Myelin Water Fraction Mapping at 3T with Self-navigated Motion Correction *2025*

S Fujita, **Y Jun**, AD Klauser, GF Piredda, T Hilbert, C Ariyurek, O Afacan, B Gagoski, B Bilgic

- **[*Oral Presentation]** *International Society for Magnetic Resonance in Medicine (ISMRM)*, pp.1109

Reducing the NEXI acquisition time for the quantification of human gray matter microstructure on the CONNECTOM 2.0 scanner *2025*

Q Uhl, T Pavan, J Gerold, KS Chan, **Y Jun**, A Bhatt, Y Ma, HH Lee, SY Huang, B Bilgic, I Jelescu

- **[*Oral Presentation] [*Summa Cum Laude]** *International Society for Magnetic Resonance in Medicine (ISMRM)*, pp.0129

vNav-QALAS: Motion robust 3D multi-parametric brain mapping with volumetric navigators *2025*

P Xu, S Fujita, **Y Jun**, B Gagoski, O Afacan, H Liu, B Bilgic

- *International Society for Magnetic Resonance in Medicine (ISMRM)*, pp.4433

Characterization of human brain IVIM signal using two-dimensional T2-diffusivity spectrum analysis based on multi-echo diffusion MRI *2025*

Z Hu, D Varadarajan, **Y Jun**, GA Hartung, A Arsenovic, LD Lewis, SY Huang, KM Kwong, B Bilgic, B Rosen, JR Polimeni

- *International Society for Magnetic Resonance in Medicine (ISMRM)*, pp.2029

Zero-Shot Self-Supervised Distortion-Free Diffusion MRI Reconstruction *2025*

MY Avci, J Cho, **Y Jun**, B Bilgic

- *International Society for Magnetic Resonance in Medicine (ISMRM)*, pp.4807

Motion-Robust T1/T2 Mapping of the Abdomen using Pilot-Tone Navigation *2025*

C Ariyurek, B Bilgic, S Fujita, **Y Jun**, S Kurugol, B Gagoski, O Afacan

- *International Society for Magnetic Resonance in Medicine (ISMRM)*, pp.5138

PRIME: Phase Reversed Interleaved Multi-Echo acquisition enables highly accelerated distortion-free diffusion MRI *2024*

Y Jun, Q Liu, J Cho, X Yong, S Fujita, SY Huang, Y Rathi, B Bilgic

- **[*Oral Presentation] [*AMPC Selected Top1% Abstract] [*Summa Cum Laude]** *International Society for Magnetic Resonance in Medicine (ISMRM)*, pp.1010

Rapid Pediatric Imaging with Zero-Shot Deep Subspace Reconstruction for Multiparametric Quantitative MRI *2024*

Y Jun, S Fujita, J Cho, X Yong, E Milshteyn, C Jaimes, SF Ferraciolli, MS Gee, B Bilgic

- **[*Oral Presentation]** *International Society for Magnetic Resonance in Medicine (ISMRM)*, pp.0625

Motion Resolved Rapid 3D Multiparametric Brain Mapping With Self-Navigation *2024*

S Fujita, **Y Jun**, X Yong, J Cho, B Gagoski, B Bilgic

- **[*Oral Presentation]** *International Society for Magnetic Resonance in Medicine (ISMRM)*, pp.0395

GNET: GSlider Self-Supervised Neural Network For Accelerated Reconstruction Of Super-Resolution Diffusion MRI *2024*

CO Kobayashi, **Y Jun**, J Cho, X Wang, Z Li, Q Tian, B Bilgic

- **[*Oral Presentation]** *International Society for Magnetic Resonance in Medicine (ISMRM)*, pp.1136

Rapid, Open-Source, Cross-Platform 3D Multiparametric Mapping For Multisite Neuroimaging *2024*

S Fujita, B Gagoski, JF Nielsen, M Zaitsev, **Y Jun**, J Cho, X Yong, E Milshteyn, S Imam, Q Liu, Q Chen, Y Rathi, B Bilgic

- **[*Oral Presentation]** *International Society for Magnetic Resonance in Medicine (ISMRM)*, pp.0568

SSIMPLE: Scan-SpecIfic Parameter MaPping From Contrast Weighted Images With Self-Supervised LEarning *2024*

F Dogangun, **Y Jun**, B Bilgic

- *International Society for Magnetic Resonance in Medicine (ISMRM)*, pp.3720

Zero-FRESCO: Zero-Shot Fast REconstruction For Multi-Shot Sensitivity EnCOded Diffusion MRI *2024*

IA Vurankaya, J Cho, **Y Jun**, B Bilgic

- *International Society for Magnetic Resonance in Medicine (ISMRM)*, pp.4178

Rapid T2* And Susceptibility Mapping Using Poisson Wave Encoding And Model-Based Reconstruction *2024*

X Wang, J Cho, **Y Jun**, B Bilgic, JP Marques

- *International Society for Magnetic Resonance in Medicine (ISMRM)*, pp.3831

Enhancing Self-Navigated Interleaved Spiral With ESPIRiT (ESNAILS) *2024*

X Yong, S Fujita, **Y Jun**, J Cho, Q Liu, Y Zhang, B Bilgic

- *International Society for Magnetic Resonance in Medicine (ISMRM)*, pp.1904

Spiral Interleaving For Diffusion Encoding And Relaxometry (SPIDER) *2024*

X Yong, HH Lee, S Fujita, **Y Jun**, J Cho, Q Liu, T Zu, Y Zhang, B Bilgic

- *International Society for Magnetic Resonance in Medicine (ISMRM)*, pp.2440

Distortion-Free Diffusion Imaging Using BUDA-GSlider On The Connectome 2.0 System *2024*

J Cho, Q Liu, **Y Jun**, S Fujita, X Yong, TH Kim, M Mahmutovic, B Keli, C Jaimes, MS Gee, S Huang, B Bilgic

- *International Society for Magnetic Resonance in Medicine (ISMRM)*, pp.4435

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

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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

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Parallel Imaging based on k-x Domain Interpolation using Deep Neural Networks *2019*

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Deep-learned 3D black-blood imaging using automatic labeling technique and 3D convolutional neural networks for detection of metastatic brain tumors *2018*

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Brain Vessel Extraction without MRA / V using Deep Convolutional Neural Network *2018*

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K Bang, J Jang, **Y Jun**, H Jang, H Lee, D Hwang

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Deep Sinogram Learning for Radial MRI: Comparison with k-space and Image Learning *2018*

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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]** *International Society for Magnetic Resonance in Medicine (ISMRM)* 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*
2018	**Learning Apparatus and Method for Generating Encephaloma Discriminative Image, Apparatus and 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

Activities

Reviewer
- IEEE Transactions on Medical Imaging (IEEE TMI) (*Distinguished Reviewer)
- Magnetic Resonance in Medicine
- Medical Physics
- Artificial Intelligence in Medicine
- Scientific Reports
- Frontiers in Pediatrics
- Quantitative Imaging in Medicine and Surgery
- IEEE Access
- IEEE Sensors Letters
- International Society for Magnetic Resonance in Medicine (ISMRM 2022-2025)
- International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI 2020-2024)
- European Conference on Computer Vision (ECCV 2024)
- International Conference on Computer Vision (ICCV 2025)
- Conference on Computer Vision and Pattern Recognition (CVPR 2025)

Moderator
- Moderator of International Society for Magnetic Resonance in Medicine (ISMRM 2024-2025)
- Poster Facilitator of International Society for Magnetic Resonance in Medicine (ISMRM 2021)

Membership
- Full Member of International Society for Magnetic Resonance in Medicine (ISMRM)

ISMRM Study Groups
- Quantitative MRI
- Ultra-high Field MR
- Diffusion
- Pediatric MR

References

Available upon request