Yohan **Jun**

Investigator @ MGH, Instructor & Faculty Member in 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 Areas

Advanced Neuroimaging with MRI	Accelerated MRI, Diffusion MRI, 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

Ph.D. in Electrical & Electronic Engineering — *Seoul, S.Korea*

— Yonsei University — *Feb. 2022*

- Advisor: Dr. Dosik Hwang
- 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

B.S. in Electrical & Electronic Engineering — *Seoul, S.Korea*

— Yonsei University — *Feb. 2016*

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

Professional Experience

Instructor in Radiology, Harvard Medical School — *Boston, US*

— Investigator, Martinos Center for Biomedical imaging, Massachusetts General Hospital — *Nov. 2024 - Now*
— Instructor and Faculty Member in Radiology, Harvard Medical School
— Pediatric Imaging Research Center, Massachusetts General Hospital

Research Fellow in Radiology, Harvard Medical School — *Boston, US*

— Postdoctoral Research Fellow, Martinos Center for Biomedical Imaging, Massachusetts General Hospital — *Mar. 2022 - Nov. 2024*
— Advisors: Dr. Berkin Bilgic, Dr. Michael S Gee

Research Assistant, Yonsei University — *Seoul, S.Korea*

— Research Assistant, Medical Artificial Intelligence Lab. — *Jan. 2016 - Feb. 2022*
— Advisor: Dr. Dosik Hwang

Research Intern, Philips Korea — *Seoul, S.Korea*

— Research Intern with Medical Artificial Intelligence Lab, Yonsei University — *Oct. 2017 - Dec. 2017*

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), National Institute of Biomedical Imaging and Bioengineering (NIBIB)*

Role: co-PI, Total Direct Cost: $400,000, Total Funding: $668,000 — *Sep. 2024 - Aug. 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

From Quantitative to Diffusion MRI: Advanced Neuroimaging Driven by AI *Seoul, S.Korea*
KU Graduate Program for Convergence & Translational Biomedicine *Aug. 2025*
- Korea University, Brain Convergence Research Center

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

Omni-QALAS: Optimized Multiparametric Imaging for Simultaneous T1, T2 and Myelin Water Mapping — *2025*
S Li, UD Gallastegi, S Fujita, Y Chen, P Xu, Y Choi, B Gagoski, H Ye, H Liu*, B Bilgic*, **Y Jun***
- *__Co-corresponding Authors__, *arXiv preprint arXiv:2510.13118*

Explainable AI for Accelerated Microstructure Imaging: A SHAP-Guided Protocol on the Connectome 2.0 scanner — *2025*
Q Uhl, T Pavan, J Gerold, KS Chan, **Y Jun**, S Fujita, A Bhatt, Y Ma, Q Wang, HH Lee, SY Huang, B Bilgic, I Jelescu
- *arXiv preprint arXiv:2509.09513*

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*
- *arXiv preprint arXiv:2508.10184*

Multishot Dual Polarity GRAPPA: Robust Nyquist Ghost Correction for multishot EPI — *2025*
Y Jiang, **Y Jun**, Q Liu, W Zhong, Y Rathi, H Guo, B Bilgic
- *arXiv preprint arXiv:2507.18273*

A Tutorial on MRI Reconstruction: From Modern Methods to Clinical Implications — *2025*
T Çukur, SUH Dar, VA Nezhad, **Y Jun**, TH Kim, S Fujita, B Bilgic
- *arXiv preprint arXiv:2507.16715*

Evaluation of Synthetic Pediatric Brain MRI Using 3D-QALAS and Zero-DeepSub Reconstruction *2025*

SF Ferraciolli[+], **Y Jun[+]**, SAV Vasquez, VP Trujillo, H Griffin, S Fujita, E Milshteyn, B Bilgic, C Jaimes

- [+]**Co-first Authors**, *research square preprint rs-7025131/v1*

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, C Liao, ME Schmidt, S Nasr, C Jaimes, MS Gee, 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[#]

- [*]**Corresponding Author**, *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[#]

- [*]**Corresponding Author**, *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[+], A Radmanesh, S Kim, G Jeong, J Ko, **Y Jun**, H Shin, D Hwang, M Mostapha, S Arberet, D Nickel, Z Ramzi, P Ciuciu, JL Starck, J Teuwen, D Karkalousos, C Zhang, A Sriram, Z Huang, N Yakubova, YW Lui, Florian Knoll

- *arXiv preprint arXiv:2012.06318*

Publications - Peer-Review Journal

Omni-QALAS: Optimized Multiparametric Imaging for Simultaneous T1, T2 and Myelin Water Mapping — *2026*

S Li, UD Gallastegi, S Fujita, Y Chen, P Xu, KS Chan, Y Choi, J Kim, GF Piredda, T Hilbert, J Lee, H Ye, B Gagoski, H Liu*, B Bilgic*, **Y Jun***

- *__Co-corresponding Authors__, *Medical Image Analysis*, (under review)

PRIME: Phase Reversed Interleaved Multi-Echo acquisition enables highly accelerated distortion-free diffusion MRI — *2026*

Y Jun*, Q Liu, T Gong, J Cho, S Fujita, X Yong, C Liao, ME Schmidt, S Nasr, C Jaimes, MS Gee, SY Huang, L Ning, A Yendiki, Y Rathi, B Bilgic

- *__Corresponding Author__, *Medical Image Analysis*, (under revision)

Vendor-Agnostic Joint Relaxometry and Myelin Water Fraction Mapping with B1 and Motion Correction — *2026*

S Fujita, **Y Jun**, AD Klauser, GF Piredda, T Hilbert, C Ariyurek, E Milshteyn, S Li, Y Chen, X Yong, KS Chan, Q Liu, S Yee, Y Rathi, M Zaitsev, JF Nielsen, O Afacan, C Jaimes, PE Grant, B Gagoski[#], B Bilgic[#]

- *Imaging Neuroscience*, (under revision)

Explainable AI for Accelerated Microstructure Imaging: A SHAP-Guided Protocol on the Connectome 2.0 scanner — *2026*

Q Uhl, T Pavan, J Gerold, KS Chan, **Y Jun**, S Fujita, A Bhatt, Y Ma, Q Wang, HH Lee, SY Huang, B Bilgic[#], I Jelescu[#]

- *Imaging Neuroscience*, (under revision)

Evaluation of Synthetic Pediatric Brain MRI Using 3D-QALAS and Zero-DeepSub Reconstruction — *2026*

SF Ferraciolli[+], **Y Jun**[+], SAV Vasquez, VP Trujillo, H Griffin, S Fujita, E Milshteyn, B Bilgic, C Jaimes

- [+]__Co-first Authors__, *Pediatric Radiology*, (in press)

Multishot Dual Polarity GRAPPA: Robust Nyquist Ghost Correction for multishot EPI — *2026*

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

- *Magnetic Resonance in Medicine*

MIMOSA: Multi-parametric Imaging using Multiple-echoes with Optimized Simultaneous Acquisition for highly-efficient quantitative MRI — *2026*

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*, 95(3):1528-1544

A Tutorial on MRI Reconstruction: From Modern Methods to Clinical Implications — *2025*

T Çukur, SUH Dar, VA Nezhad, **Y Jun**, TH Kim, S Fujita, B Bilgic

- *IEEE Transactions on Biomedical Engineering*

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 Milshteyn, S Imam, Q Liu, Q Chen, O Afacan, JE Kirsch, Y Rathi, B Bilgic

- *Magnetic Resonance in Medicine*, 94(3):937-948

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[#]

- *__Corresponding Author__, *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[#]

- *__Corresponding Author__, *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[+], H Kim, Y Gao, JR Lee, G Son, T Kim, **Y Jun**, J Kim, J Lee, S Um, Y Kwon, BG Son, M Cho, M Sang, J Shin, K Kim, J Suh, H Choi, S Hong, H Cheng, 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[+], A Radmanesh, S Kim, G Jeong, J Ko, **Y Jun**, H Shin, D Hwang, M Mostapha, S Arberet, D Nickel, Z Ramzi, P Ciuciu, JL Starck, J Teuwen, D Karkalousos, C Zhang, A Sriram, Z Huang, N Yakubova, YW Lui, 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, G Jeong, K Hammernik, J Schlemper, C Qin, J Duan, D Rueckert, J Lee, N Pezzoti, ED Weerdt, S Yousefi, MS Elmahdy, JHFV Gemert, C Schuelke, M Doneva, T Nielsen, S Kastryulin, BPF Lelieveldt, MJPV Osch, M Staring, EZ Chen, P Wang, X Chen, T Chen, VM Patel, S Sun, H Shin, **Y Jun**, T Eo, S Kim, T Kim, D Hwang, P Putzky, D Karkalousos, J Teuwen, N Miriakov, B Bakker, M Caan, M Welling, MJ Muckley, 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

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

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

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

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

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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

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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

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

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

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

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

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

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

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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

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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

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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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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)*, pp.2155

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)*, pp.0671

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)*, pp.0831

Model-based phase-difference reconstruction for accelerated phase-based T2 mapping — *2023*

X Wang, J Cho, **Y Jun**, B Gagoski, B Bilgic

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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)*, pp.2202

Deep Subspace Reconstruction with Zero-Shot Learning for Multiparametric Quantitative MRI — *2023*

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- **[*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

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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

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

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

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

- *The 21th Annual Meeting of the the Korean Society for Brain and Neural Sciences (KSBNS)*, 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]** *International Society for Magnetic Resonance in Medicine (ISMRM)*, 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]** *International Society for Magnetic Resonance in Medicine (ISMRM)* pp. 3974

Patents

Phase Reversed Interleaved Multi-Echo (PRIME) acquisition for highly accelerated distortion-free diffusion MRI — *2025*

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

- *Provisional #, US63/803,522*, (US)

Physics-informed approach to reduce dosage of gadolinium-based contrast agents for magnetic resonance imaging exams — *2025*

B Bilgic, J Cho, S Fujita, MS Gee, C Jaimes, **Y Jun**, J Stockmann, X Wang

- *Provisional #, US63/803,462*, (US)

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

B Bilgic, Y Chen, S Fujita, B Gagoski, **Y Jun**

- *Provisional #, US63/803,492*, (US)

Method And Device For Correcting Medical Image Using Phantom — *2022*

D Hwang, **Y Jun**, T Kim, Y Lee

- *Registered, 10-2481027*, (S. Korea)

Apparatus And Method For Reconstructing MR Parameter Map — *2022*

D Hwang, **Y Jun**, H Shin, T Eo, T Kim

- *Registered, 10-2352004*, (S. Korea)

Device And Method For Reconstructing Magnetic Resonance Image Thereof — *2021*

D Hwang, T Eo, T Kim, **Y Jun**

- *Registered, 10-2233996*, (S. Korea)

Learning Apparatus and Method for Generating Encephaloma Discriminative Image, Apparatus and Method for Generating Encephaloma Discriminative Image, and Recording Medium thereof — *2018*

SS Ahn, T Eo, **Y Jun**, D Hwang, BW Choi, T Kim, HJ Lee

- *Registered, 10-1928213*, (S. Korea)

Device and Method for Reconstructing Undersampled Magnetic Resonance Image — *2018*

D Hwang, T Eo, **Y Jun**, T Kim

- *Registered, 10-1886575*, (S. Korea)

Activities

Ad Hoc Reviewer

- IEEE Transactions on Medical Imaging (IEEE TMI) (*Distinguished Reviewer)
- Magnetic Resonance in Medicine
- Medical Physics
- Artificial Intelligence in Medicine
- Scientific Reports
- Neuroradiology
- Engineering Applications of Artificial Intelligence
- Frontiers in Pediatrics
- Quantitative Imaging in Medicine and Surgery
- BMC Medical Imaging
- IEEE Journal of Biomedical and Health Informatics (JBHI)
- IEEE Access
- IEEE Sensors Letters
- International Society for Magnetic Resonance in Medicine (ISMRM 2022-2026)
- International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI 2020-2025)
- European Conference on Computer Vision (ECCV 2024)
- International Conference on Computer Vision (ICCV 2025)
- Conference on Computer Vision and Pattern Recognition (CVPR 2025-2026)

Conference 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)

Professional Societies

- Full Member of International Society for Magnetic Resonance in Medicine (ISMRM) (2025-)
- Trainee Member of International Society for Magnetic Resonance in Medicine (ISMRM) (2017-2024)
- ISMRM Study Groups (Quantitative MRI, Ultra-high Field MR, Diffusion, Pediatric MR)

Skills

Programming Python, Matlab, Pytorch, Tensorflow/Keras, C/C++

MRI Sequence Design Pulseq

Languages Korean, English

References

Available upon request