

Jee Seok Yoon

PhD Student @ Korea University

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INTERESTS	Explainable AI, Representation Learning, Medical Image Analysis	
	Current Interests: Federated Learning, Disentangled Representation, Image Style Transfer, Few-shot Learning	
EDUCATION	Korea University (Coursework Completed Aug. 2021) <i>Integrated M.S./Ph.D. student in Dept. of Brain and Cognitive Engineering</i> <i>Advisor: Professor Heung-Il Suk</i> GPA: 4.18 / 4.5 (96.3 / 100)	Seoul, South Korea Sep. 2018 –
	Korea University <i>Undergraduate student in Dept. of Computer Science and Engineering</i> GPA: 3.23 / 4.5 (85.5 / 100)	Seoul, South Korea Mar. 2012 – Aug. 2018
AWARDS & HONORS	Naver Ph.D. Fellowship (~\$5,000 Reward) Naver Corp. (Link)	Seoul, South Korea Dec. 2021
	Graduate Student Achievement Award (~\$1,700 Reward) Korea University (Link)	Seoul, South Korea Oct. 2021
	Junior Fellow Research Grant (~\$2,500 Reward) Korea University (Link)	Seoul, South Korea Jul. 2021
	Fundamental Scientist Scholarship (~\$22,000 Reward) JW Foundation (Link)	Seoul, South Korea Jan. 2021
	Student Travel Award (\$1,000 Reward) Medical Image Computing and Computer Assisted Intervention Conference (MICCAI, link)	Quebec, Canada Sep. 2017
	Best Paper Award Korean Institute of Information Scientists and Engineers (KIISE) Korea Computer Congress (KCC, link)	Jeju Island, South Korea Jun. 2017
	Best Undergraduate Student Paper Award Korean Institute of Information Scientists and Engineers (KIISE) Winter Conference (Link , code)	Pyeongchang, South Korea Dec. 2016
SELECTED PUBLICATIONS	Jee Seok Yoon* , M.C. Roh, and H.-I. Suk, “A Plug-in Method for Representation Factorization in Connectionist Models,” <i>IEEE Transactions on Neural Networks and Learning Systems</i> , 2021 (IF 10.451 , paper , code , accepted)	
<i>In order of importance</i>	Jee Seok Yoon* , Wonjun Ko, and Heung-Il Suk, “A Plug-in Factorizer for Disentangling a Latent Representation,” Proc. of 1 st ICCV Workshop on Interpreting and Explaining Visual Artificial Intelligence Models, Seoul, South Korea, 2019 (Poster Spotlight , link)	
	K. Oh*, Jee Seok Yoon* , and H.-I. Suk, “Learn-Explain-Reinforce: Counterfactual Reasoning and Its Guidance to Reinforce an Alzheimer’s Disease Diagnosis Model,” <i>arXiv</i> , 2021 (Paper , code , submitted to IEEE Transactions on Pattern Analysis and Machine Intelligence (IF 16.389))	
	Bum-Chae Kim*, Jee Seok Yoon* , Jun-Sik Choi, and Heung-Il Suk, “Multi-scale Gradual Integration Convolutional Neural Network for False Positive Reduction in Pulmonary Nodule Detection,” <i>Neural Networks</i> , 2019. (IF 8.050 , paper , code)	
	Y. Ahn*, Jee Seok Yoon* , S. Lee, H.-I. Suk J. Son, Y. Sung, Y. Lee, B.-K Kang, and H. Kim, “Deep Learning Algorithm for Automated Segmentation and Volume Measurement of the Liver and Spleen Using Portal Venous Phase Computed Tomography Images,” <i>Korean Journal of Radiology</i> , 2020 (IF 3.179 , paper)	
EXPERIENCE	Kakao Enterprise (Computer vision team) <i>Research Intern</i> - Generative models for natural/medical image synthesis	Pangyo, Gyeonggi, South Korea Mar. 2021 – Sep. 2021
	SK Telecom <i>Teaching Assistant</i> - Taught TensorFlow and PyTorch to employees of SK Group ranging from experts to beginners in the field	Eulji-ro, Seoul, South Korea Sep. 2017 – Sep. 2020
	Kakao Corp. (Computer vision team) <i>Research Intern</i> - Mainly focused on meta-learning and few-shot learning (produced [4])	Pangyo, Gyeonggi, South Korea Jun. 2018 – Aug. 2018
	Venture Company <i>Co-founder, CTO, Backend Developer</i> - Developed the backend for a mobile dating service (currently out of business...!)	Anam, Seoul, South Korea Mar. 2013 – May. 2014

PROJECTS

CHALLENGE	SEGMENTATION	9th place in Ischemic Stroke Lesion Segmentation Challenge 2016 (Official Leaderboard , [11]) 10th place in Brain Tumor Image Segmentation Challenge 2016 ([12, 13])
	DETECTION	4th place in Lung Nodule Analysis 2016 (Official Leaderboard , under the name <i>MILAB</i> , [7])
APPLICATIONS	LCD CRACK DETECTION	Carrot Insurance PhoneCare LCD Insurance Developed smartphone LCD crack detector (News)
	FIBROSIS DIAGNOSIS	SmartCarworks Inc. GoCDSS Fully automated liver, spleen segmentation and liver fibrosis diagnosis system (News , [6])

Participated as the main/1st contributor in the listed projects

PUBLICATIONS

				*First Author(s)
TYPE	#	ROLE	PUBLICATIONS	
JOURNAL	1	Co.	K. Oh*, Jee Seok Yoon* , and H.-I. Suk, “Learn-Explain-Reinforce: Counterfactual Reasoning and Its Guidance to Reinforce an Alzheimer’s Disease Diagnosis Model,” <i>arXiv</i> , 2021 (Paper , code , submitted to IEEE Transactions on Pattern Analysis and Machine Intelligence (IF 16.389))	
	2		E. Jeon*, W. Ko, Jee Seok Yoon , and H.-I. Suk, “Mutual Information-driven Subject-invariant and Class-relevant Deep Representation Learning in BCI,” <i>IEEE Transactions on Neural Networks and Learning Systems</i> , 2021 (IF 10.451 , paper , accepted)	
	3		D.W. Kim*, J. Ha*, S. Lee, J.H. Kwon, N.Y. Kim, Y. Sung, Jee Seok Yoon , H.-I. Suk, Y. Lee, and B.-K. Kang, “Population-based and Personalized Reference Intervals for Liver and Spleen Volumes in healthy individuals and those with viral hepatitis,” <i>Radiology</i> , Vol. 301, No. 2, 2021 (IF 11.105 , paper)	
	4	1 ST	Jee Seok Yoon* , M.C. Roh, and H.-I. Suk, “A Plug-in Method for Representation Factorization in Connectionist Models,” <i>IEEE Transactions on Neural Networks and Learning Systems</i> , 2021(IF 10.451 , paper , code , accepted)	
	5		C. Lee*, S.S. Lee, W.-M. Choi, K.M. Kim, Y.S. Sung, S. Lee, S.J. Lee, Jee Seok Yoon , and H.-I. Suk, “An index based on deep learning–measured spleen volume on CT for the assessment of high-risk varix in B-viral compensated cirrhosis,” <i>European Radiology</i> , Vol. 31, No. 5, pp. 3355-3365, 2020 (IF 5.315 , paper)	
	6	Co.	Y. Ahn*, Jee Seok Yoon* , S. Lee, H.-I. Suk J. Son, Y. Sung, Y. Lee, B.-K Kang, and H. Kim, “Deep Learning Algorithm for Automated Segmentation and Volume Measurement of the Liver and Spleen Using Portal Venous Phase Computed Tomography Images,” <i>Korean Journal of Radiology</i> , Vol. 21, No. 8, pp. 987-997, 2020 (IF 3.179 , paper)	
	7	Co.	Bum-Chae Kim*, Jee Seok Yoon* , Jun-Sik Choi, and Heung-Il Suk, “Multi-scale Gradual Integration Convolutional Neural Network for False Positive Reduction in Pulmonary Nodule Detection,” <i>Neural Networks</i> , Vol. 115, pp. 1-10, 2019. (IF 8.050 , paper , code)	
INTERNATIONAL CONFERENCE	8	1 ST	Jee Seok Yoon* , Wonjun Ko, and Heung-Il Suk, “A Plug-in Factorizer for Disentangling a Latent Representation,” Proc. of 1 st <i>ICCV Workshop on Interpreting and Explaining Visual Artificial Intelligence Models</i> , Seoul, South Korea, 2019 (Poster Spotlight , link)	
	9		Wonjun Ko*, Jee Seok Yoon , and Heung-Il Suk, “Towards Reducing Calibration in BCI: Artificial EEGs Generation by Deep Learning,” Proc. of 7 th <i>International Brain-Computer Interface Meeting</i> , Pacific Grove, USA, 2018. (Student Award , Poster, link , paper)	
	10		Wonjun Ko*, Jee Seok Yoon , Eun-song Kang, Eunji Jun, Jun-Sik Choi, and Heung-Il Suk, “Deep Recurrent Spatio-Temporal Neural Network for Motor Imagery based BCI,” Proc. of 6 th <i>IEEE International Winter Conference on Brain-Computer Interface</i> , High1 Resort, Korea, 2018. (Poster, paper)	
	11	1 ST	Jee Seok Yoon* , Eun-Song Kang, and Heung-Il Suk, “Gated Two-Stage Convolutional Neural Network for Ischemic Stroke Lesion Segmentation,” Proc. of 3 rd <i>MICCAI Workshop on Ischemic Stroke Lesion Segmentation Challenge (ISLES)</i> , Quebec, Canada, 2017. (Student Travel Award , poster, paper)	
DOMESTIC CONFERENCE	12	1 ST	Jee Seok Yoon* and Heung-Il Suk, “Auto-context Bagging for Brain Tumor Automatic Segmentation,” Proc. of 2017 <i>KIISE Korea Computer Congress (KCC)</i> , 2017 (Best Paper Award , oral, link , paper)	

	13	1 ST	Jee Seok Yoon* and Heung-Il Suk, “Deep Learning-based Brain Tumor Segmentation from Multi-modal MRI,” Proc. of 2016 <i>KIISE Winter Conference</i> , 2016 (<i>Best Paper Award</i> , poster, link , paper , code)
DOMESTIC PATENT	14	1 ST	Jee Seok Yoon and Heung-Il Suk*, “A Method and Device for Explainable Few-shot Image Classification,” Korean Patent, No. 10-2316678, 19 Oct. 2021 (Link)
DOMESTIC ARTICLE	15	1 ST	Jee Seok Yoon* and Heung-Il Suk, “AI-based Computer Vision Uses in Kakao Corp.,” Communications of the Korean Institute of Information Scientists and Engineers, Vol. 37, No. 2, pp. 52-55, Feb 2019 (Link)

For those interested, summary in PowerPoint ([Korean](#), ~~English [To Be Published]~~)

Thank you for your interest.

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