

Jaesung Yoo

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Education

- M.S. in Electrical Engineering, Korea University** 8. 2020 – 8. 2023
BS-MS integrated program. GPA: 4.44/4.5 (expected)
- B.S. in Electrical Engineering, Brain and Cognitive Sciences, Korea University** 3. 2015 – 8. 2020
Early graduation, with great honor. GPA: 4.26/4.5

Research Experience

- Research Assistant, Massachusetts Institute of Technology (MIT)** 7. 2022 – Present
Department of Brain and Cognitive Sciences, Advisor: Robert Guangyu Yang
- Research in deep learning as a cognitive neuroscience model.
- Research Assistant, Seoul National University Hospital** 2. 2021 – 3. 2022
Biomedical Informatics lab, Advisor: Kwangsoo Kim
- Publications on privacy preserving deep learning and AI in medical neuroscience. Developed deep learning training library “hideandseek”.
- Research Assistant, Korea University** 7. 2020 – 1. 2021
Department of Electrical Engineering, Advisor: Joongheon Kim
- Developed DL human response model and RL agent in propofol anesthetic infusion.
- Research Assistant, Korea University** 9. 2018 – 6. 2020
Department of Computer Science, Advisor: Dongsuk Yook
- Optimized vectorized DTW to be 30% faster than existing libraries. Performed deep learning experiments for: Voice conversion using multi-decoder VAE-ACGAN, Bandwidth extension, Accent conversion.

Publications

Under Review (*Authors contributed equally)

Jaesung Yoo*, Ilhan Yoo*, Ina Youn, Sung-Min Kim, Ri Yu, Kwangsoo Kim, Keewon Kim, Seung-Bo Lee. Residual one-dimensional convolutional neural network for neuromuscular disorder classification from needle electromyography signals with explainability.

Ilhan Yoo*, Jaesung Yoo*, Dongmin Kim, Ina Youn, Hyodong Kim, Michelle Youn, Jun Hee Won, Woosup Cho, Youho Myong, Sehoon Kim, Ri Yu, Sung-Min Kim, Kwangsoo Kim, Seung-Bo Lee, Keewon Kim. Deep learning model for needle electromyography electrodiagnosis in comparison with physician assessment: A retrospective study.

Jaesung Yoo*, Sunghyoun Choi*, Suhwan Kim, Joongheon Kim, Kwangsoo Kim, Hyung-Jin Yoon. Transfer iterative learning in privacy preserving deep learning: a common data model study.

Jaesung Yoo, Sunghyoun Choi, Ye Seul Yang, Suhyeon Kim, Jieun Choi, Dongkyeong Lim, Yaeji Lim, Hyung Joon Joo, Dae Jung Kim, Rae Woong Park, Hyeong-Jin Yoon, Kwangsoo Kim. Review learning: Alleviating catastrophic forgetting with generative replay without a generator.

Presentations

Jaesung Yoo, Jeman Park, An Wang, David Mohaisen, Joongheon Kim. On the performance of generative adversarial network (GAN) variants: a clinical data study, Oral presentation at International Conference on ICT Convergence, 2020.

Good Course Styles for Undergraduates, Invited talk at orientation for new faculties, Korea University, 2019.

[Department Promotional Video](#), Korea University school of Electrical Engineering, 2019.

Honors and Awards

BS-MS Integrated Program Scholarship	Korea University	Fall 2020
<ul style="list-style-type: none">Full scholarship for 1 semester		
Student Mentor Scholarship	Korea University	3. 2020 – 7. 2021
<u>Gold Paper Award, IEEE Student Paper Contest</u>	IEEE Seoul Section	12. 2019
<u>Korea University Global Research Excursion Program</u>	Korea University	2019
<ul style="list-style-type: none">Full scholarship for Silicon Valley excursion		
<u>National Scholarship for Science and Engineering</u>	Korea Student Aid Foundation	2019
<ul style="list-style-type: none">Full scholarship for 2 years		
GPA Scholarship	Korea University	Fall 2015
<ul style="list-style-type: none">Full scholarship for 1 semester		

Teaching & Leadership

<u>Young Engineers Honors Society</u>	National Academy of Engineering of Korea	9. 2019 – Present
International Student Mentor	Korea University	3. 2020 – 7. 2021
Vice-Captain of Swim Team	Korea University	9. 2019 – 12. 2020
Psychology Study Club,	Department of Psychology, Korea University	Fall 2019
Linear Algebra Tutor	Korea University	9. 2018 – 7. 2019
<ul style="list-style-type: none">Awarded with best tutor award for two semesters		
Republic of Korea Air Force	South Korea	8. 2016 – 8. 2018
<ul style="list-style-type: none">Lead soldier of squadron, Honorable Soldier Award		

Skills

Scientific Skills

Excellent

Deep Learning
Linear Algebra
Calculus

Advanced

Visualization
Signal Processing
Reinforcement Learning
Computer Design

Basic

Electric/Electronic Circuit

Computer Languages

Excellent

Python (pytorch, scikit-learn, numpy, pandas, hydra, PyPI),
Notion

Advanced

Latex, Inkscape, Tableau, Matlab,
SQL, Docker, Git

Basic

C, Java, HTML