Jee-weon Jung (updated October 24, 2024)

Github: https://github.com/Jungjee

Google Scholar: https://scholar.google.com/citations?user=A5OcLdAAAAAJ

Webpage: https://jungjee.com

### Professional Experience

Apple

Senior Research Scientist (full time)

Carnegie Mellon University

Postdoctoral Research Associate (full time)

Supervisor: Stephen Shum May 2023 - September 2024

September 2024 -

Email: jeeweonj@ieee.org

1ay 2023 - September 2024 PI: Shinji Watanabe

December 2020 - April 2023

Supervisor: Bong-Jin Lee

- Speech processing: extended area of expertise by having 1st author publications on speech enhancement, speech summarization, and automated audio captioning. Co-authored papers on speech recognition, speech foundation model, multi-modal audio-visual recognition and generation, and spoken language understanding.
- $\circ\,\,{\bf Papers}\colon$  published 30 peer-reviewed papers

Naver Clova, Republic of Korea

Research Scientist (full time)

o Speaker recognition: developed speaker embedding extractors for ClovaNote service

- $\circ \ \mathbf{Sound(audio)} \ \mathbf{event} \ \mathbf{detection} \colon \mathbf{developed} \ \mathbf{volleyball} \ \mathbf{whistle} \ \mathbf{detection} \ \mathbf{models} \ \mathbf{for} \ \mathbf{Naver} \ \mathbf{volleyball} \ \mathbf{streaming} \ \mathbf{service}.$
- Audio anti-spoofing: Developed state-of-the-art anti-spoofing systems.
- o Papers and patents: published 27 peer-reviewed papers and filed 3 patents

#### EDUCATION

## PhD, Computer Science and Engineering

University of Seoul

March 2017 - February 2021 Supervisor: <u>Ha-Jin Yu</u>

- Thesis: Raw waveform speaker verification using an end-to-end deep neural network architecture and feature map scaling
- o Papers and patents: published 30 peer-reviewed papers and filed 4 patents

BBA

University of Seoul

March 2013 - February 2017 Seoul, Republic of Korea

BS, Computer Science and Engineering (Double major)

University of Seoul

March 2013 - February 2017 Seoul, Republic of Korea

## Honors and Awards

- Ranked 1st place at the DCASE 2024 Challenge task 6 (automated audio captioning, AAC) 2024
- MERL award: Joint CMU-MERL team wins DCASE2023 Challenge on Automated Audio Captioning 2023
- Ranked 1st place at the DCASE 2023 Challenge task 6-a (automated audio captioning, AAC) 2023
- Ranked 3rd place at the Third DIHARD Speech Diarisation Challenge (track 1 core, speaker diarization, SD) 2021
- Ranked 4th place at the DCASE 2021 Challenge task 1-a (acoustic scene classification, ASC) 2021
- Ranked 6th place at the DCASE 2019 Challenge task 1-a (acoustic scene classification, ASC) 2019
- Full-tuition Scholarship from University of Seoul 2017, 2018, 2019
- $\bullet\,$  Full-tuition National Government Scholarship 2016
- Samsung Convergence Software Course Scholarship 2015
- $\bullet$  Overseas Study Scholarship from Seoul city government and University of Seoul 2015
- Half-tuition Scholarship for Academic Excellence 2014, 2015

#### SKILLS

• Language skills: English, Korean (native), Chinese

• Programming: Python, Bash, C

• Toolkits: PyTorch, Theano, Keras, Kaldi

# COMMUNITY ENGAGEMENTS

## [Organizing special sessions, challenges, and workshops]

- Spoofing-aware Speaker Verification (SASV) 2022 challenge and a special session at Interspeech 2022 (Founding organizer)
- VoxCeleb Speaker Recognition Challenge and satellite workshops at Interspeech 2022 and 2023
- Automatic Speaker Verification and Spoofing Countermeasures (ASVspoof) 5 Challenge and satellite workshop at Interspeech 2024

#### [Memberships]

- IEEE SPS (2018 current)
- IEEE SLTC Associate Member (2024 current)
- ISCA (2018 current)

### [Chairing sessions]

- IEEE ICASSP 2022
- ISCA Interspeech 2024
- ISCA Interspeech 2023
- ISCA Interspeech 2022
- ISCA Odyssey 2024

## [Reviewing conference, workshop, and journal submissions]

- IEEE ICASSP 2019
- IEEE ICASSP 2020
- IEEE ICASSP 2021
- IEEE ICASSP 2022
- IEEE ICASSP 2023
- IEEE ICASSP 2024 (also meta-reviewer)
- IEEE ICASSP 2025
- IEEE ASRU 2023
- IEEE SLT 2022
- DCASE Workshop 2022
- DCASE Workshop 2024
- ISCA Interspeech 2021
- ISCA Interspeech 2022
- ISCA Interspeech 2023
- ISCA Interspeech 2024
- ISCA Odyssey 2024
- IEEE OJSP
- IEEE TASLP
- IEEE SPL
- IEEE Access
- Nature Scientific reports
- $\bullet~$  Elsevier CSL
- EUSIPCO
- ASVspoof 5 Workshop

### [Giving tutorials]

• ISCA Interspeech 2023 [link]

#### TEACHING AND TALKS

Naver

Vulnerability of ASV and research on spoofing-robustness – invited talk August 2024 University of Buenos Aires BA, Argentina Speaker recognition and diarization – guest lecture Spring 2024 Carnegie Mellon University, 11492/11692/18495: Speech Technology for Conversational AI PA, United States Speaker recognition in speech processing – guest lecture Spring 2023 Carnegie Mellon University, 11492/11692/18495: Speech Processing PA, United States Python programming - 3-day course September 2019 Korea Meteorological Administration Jeju, Republic of Korea Python for deep learning – 1-day course May 2019  $Korea\ Meteorological\ Administration$ Jeju, Republic of Korea Raw waveform speaker verification – invited talk January 2019

Kyung-gi, Republic of Korea

Publications (\*equal contribution; 88 publications, including 43 first and 3 corresponding author publications)

[2024]: 27 publications, including 9 first author publications

- [Paper] Hye-jin Shim, Jee-weon Jung, Ha-Jin Yu, "Which to select?: Analysis of speaker representation with graph attention networks," in The Journal of the Acoustical Society of America.
- [Paper] Jaesung Huh, Joon Son Chung, Arsha Nagrani, Andrew Brown, Jee-weon Jung, Daniel Garcia-Romero, Andrew Zisserman, "The Vox Celeb Speaker Recognition Challenge: A Retrospective," in IEEE/ACM Transactions on Audio, Speech, and Language Processing.
- [Paper] Hye-jin Shim, Md Sahidullah, Jee-weon Jung, Shinji Watanabe, Tomi Kinnunen, "Beyond Silence: Bias Analysis through Loss and Asymmetric Approach in Audio Anti-Spoofing," in Proc. SynData4GenAI (Interspeech 2024 Satellite)).
- [Paper] Xin Wang, Hector Delgado, Hemlata Tak, Jee-weon Jung, Hye-jin Shim, Massimiliano Todisco, Ivan Kukanov, Xuechen Liu, Md Sahidullah, Tomi Kinnunen, Nicholas Evans, Kong Aik Lee, Junichi Yamagishi, "ASVspoof 5: Crowdsourced Speech Data, Deepfakes, and Adversarial Attacks at Scale," in Proc. ASVspoof 2024 Workshop (Interspeech 2024 Satellite).
- [Paper] Jee-weon Jung\*, Xin Wang\*, Nicholas Evans, Shinji Watanabe, Hye-jin Shim, Hemlata Tak, Siddhant Arora, Junichi Yamagishi, Joon Son Chung, "To what extent can ASV systems naturally defend against spoofing attacks?," in Proc. Interspeech.
- [Paper] Jee-weon Jung\*, Wangyou Zhang\*, Jiatong Shi\*, Zakaria Aldeneh, Takuya Higuchi, Barry-John Theobald, Ahmed Hussen Abdelaziz, Shinji Watanabe, "ESPnet-SPK: full pipeline speaker embedding toolkit with reproducible recipes, self-supervised front-ends, and off-the-shelf models," in Proc. Interspeech.
- [Paper] Kihyun Nam, Hee-Soo Heo, Jee-weon Jung, Joon Son Chung, "Disentangled Representation Learning for Environment-agnostic Speaker Recognition," in Proc. Interspeech.
- [Paper] Wangyou Zhang, Kohei Saijo, **Jee-weon Jung**, Chenda Li, Shinji Watanabe, Yanmian Qian, "Beyond Performance Plateaus: A Comprehensive Study on Scalability in Speech Enhancement," in Proc. Interspeech.
- [Paper] Zakaria Aldeneh, Takuya Higuchi, Jee-weon Jung, Skyler Seto, Tatiana Likhomanenko, Stephen Shum, Ahmed Hussen Abdelaziz, Shinji Watanabe, Barry-John Theobald, "Can you Remove the Downstream Model for Speaker Recognition with Self-Supervised Speech Features?," in Proc. Interspeech.
- [Paper] Yifan Peng, Jinchuan Tian, William Chen, Siddhant Arora, Brian Yan, Yui Sudo, Muhammad Shakeel, Kwanghee Choi, Jiatong Shi, Xuankai Chang, Jee-weon Jung, Shinji Watanabe, "OWSM v3.1: Better and Faster Open Whisper-Style Speech Models based on E-Branchformer," in Proc. Interspeech.
- [Paper] Hye-jin Shim\*, Jee-weon Jung\*, Tomi Kinnunen, Nicholas Evans, Jean-Francois Bonastre, Itshak Lapidot, "a-DCF: an architecture agnostic metric with application to spoofing-robust speaker verification," in Proc. Speaker Odyssey.
- [Paper] Jee-weon Jung\*, Roshan Sharma\*, William Chen, Bhiksha Raj, Shinji Watanabe, "AugSumm: towards generalizable speech summarization using synthetic labels from large language models," in Proc. ICASSP.
- [Paper] Wangyou Zhang\*, Jee-weon Jung\*, Shinji Watanabe, Yanmin Qian, "Improving Design of Input Condition Invariant Speech Enhancement," in Proc. ICASSP.
- [Paper] Kwanghee Choi, Jee-weon Jung, Shinji Watanabe, "Understanding Probe Behaviors through Variational Bounds of Mutual Information," in Proc. ICASSP.
- [Paper] Samuele Cornell, Jee-weon Jung, Shinji Watanabe, Stefano Squartini, "One model to rule them all? Towards End-to-End Joint Speaker Diarization and Speech Recognition," in Proc. ICASSP.
- [Paper] Doyeop Kwak\*, Jaemin Jung\*, Kihyun Nam, Youngjoon Jang, Jee-weon Jung, Shinji Watanabe, Joon Son Chung, "VoxMM: Rich Transcription of Conversations in the Wild," in Proc. ICASSP.
- [Paper] Soumi Maiti, Yifan Peng, Shukjae Choi, Jee-weon Jung, Xuankai Chang, Shinji Watanabe, "Voxtlm: unified decoder-only models for consolidating speech recognition, synthesis and speech, text continuation tasks," in Proc. ICASSP.

- [Paper] Shih-Lun Wu, Xuankai Chang, Gordon Wichern, Jee-weon Jung, François Germain, Jonathan Le Roux, Shinji Watanabe, "Improving Audio Captioning Models with Fine-grained Audio Features, Text Embedding Supervision, and LLM Mix-up Augmentation," in Proc. ICASSP.
- [Paper] Xuankai Chang, Brian Yan, Kwanghee Choi, Jee-weon Jung, Yichen Lu, Soumi Maiti, Roshan Sharma, Jiatong Shi, Jinchuan Tian, Shinji Watanabe, Yuya Fujita, Takashi Maekaku, Pengcheng Guo, Yao-Fei Cheng, Pavel Denisov, Kohei Saijo, Hsiu-Hsuan Wang, "Exploring Speech Recognition, Translation, and Understanding with Discrete Speech Units: A Comparative Study," in Proc. ICASSP.
- [Paper] Siddhant Arora, Hayato Futami, Jee-weon Jung, Yifan Peng, Roshan Sharma, Yosuke Kashiwagi, Emiru Tsunoo, Shinji Watanabe, "UniverSLU: Universal Spoken Language Understanding for Diverse Classification and Sequence Generation Tasks with a Single Network," in Proc. NAACL.
- [Paper] Siddhant Arora, Ankita Pasad, Chung-Ming Chien, Jionghao Han, Roshan Sharma, Jee-weon Jung, Hira Dhamyal, William Chen, Suwon Shon, Hung-yi Lee, Karen Livescu, Shinji Watanabe, "On the Evaluation of Speech Foundation Models for Spoken Language Understanding," in Proc. ACL Findings.
- [Preprint] Zakaria Aldeneh, Takuya Higuchi, Jee-weon Jung, Li-Wei Chen, Stephen Shum, Ahmed Hussen Abdelaziz, Shinji Watanabe, Tatiana Likhomanenko, Barry-John Theobald, "Speaker-IPL: Unsupervised Learning of Speaker Characteristics with i-Vector based Pseudo-Labels," in arXiv.
- [Preprint] Jiatong Shi, Jinchuan Tian, Yihan Wu, Jee-weon Jung, Jia Qi Yip, Yoshiki Masuyama, William Chen, Yuning Wu, Yuxun Tang, Massa Baali, Dareen Alharhi, Dong Zhang, Ruifan Deng, Tejes Srivastava, Haibin Wu, Alexander H Liu, Bhiksha Raj, Qin Jin, Ruihua Song, Shinji Watanabe, "ESPnet-Codec: Comprehensive Training and Evaluation of Neural Codecs for Audio, Music, and Speech," in arXiv.
- [Preprint] Jee-weon Jung, Yihan Wu, Xin Wang, Ji-Hoon Kim, Soumi Maiti, Yuta Matsunaga, Hye-jin Shim, Jinchuan Tian, Nicholas Evans, Joon Son Chung, Wangyou Zhang, Seyun Um, Shinnosuke Takamichi, Shinji Watanabe, "SpoofCeleb: Speech Deepfake Detection and SASV In The Wild," in arXiv.
- [Preprint] Jee-weon Jung, Wangyou Zhang, Soumi Maiti, Yihan Wu, Xin Wang, Ji-Hoon Kim, Yuta Matsunaga, Seyun Um, Jinchuan Tian, Hye-jin Shim, Nicholas Evans, Joon Son Chung, Shinnosuke Takamichi, Shinji Watanabe, "Text-To-Speech Synthesis In The Wild," in arXiv.
- [Preprint] Minsu Kim\*, Jee-weon Jung\*, Hyeongseop Rha, Soumi Maiti, Siddhant Arora, Xuankai Chang, Shinji Watanabe, Yong Man Ro, "TMT: Tri-Modal Translation between Speech, Image, and Text by Processing Different Modalities as Different Languages," in arXiv.
- [Tech. Rep] Jee-weon Jung, Dong Zhang, Chao-Han Huck Yang, Shih-Lun Wu, David M. Chan, Zhifeng Kong, Ruifan Deng, Yaqian Zhou, Rafael Valle, Shinji Watanabe, "Automatic Audio Captioning with Encoder Fusion, Multi-Layer Aggregation, and Large Language Model Enriched Summarization," in <a href="https://dcase.community/documents/challenge2024/technical\_reports/DCASE2024\_Jung\_74\_t6.pdf">https://dcase.community/documents/challenge2024/technical\_reports/DCASE2024\_Jung\_74\_t6.pdf</a>.

[2023]: 14 publications, including 3 first and 3 corresponding author publications

- [Paper] Yifan Peng, Jinchuan Tian, Brian Yan, Dan Berrebbi, Xuankai Chang, Xinjian Li, Jiatong Shi, Siddhant Arora, William Chen, Roshan Sharma, Wangyou Zhang, Yui Sudo, Muhammad Shakeel, Jee-weon Jung, Soumi Maiti, Shinji Watanabe, "Reproducing Whisper-Style Training Using an Open-Source Toolkit and Publicly Available Data," in Proc. IEEE ASRU.
- [Paper] Jee-weon Jung, Soonshin Seo, Hee-Soo Heo, Geonmin Kim, You Jin Kim, Young-ki Kwon, Minjae Lee, and Bong-Jin Lee, "Encoder-decoder multimodal speaker change detection," in Proc. Interspeech.
- [Paper] Sung Hwan Mun\*, Hye-jin Shim\*, Hemlata Tak\*, Xin Wang, Xuechen Liu, Md Sahidullah, Myeonghun Jeong, Min Hyun Han, Massimiliano Todisco, Kong Aik Lee, Junichi Yamagishi, Nicholas Evans, Tomi Kinnunen, Nam Soo Kim, and Jee-weon Jung, "Towards single integrated spoofing-aware speaker verification embeddings," in Proc. Interspeech.
- [Paper] Hye-jin Shim, Jee-weon Jung, Tomi Kinnunen, "Multi-Dataset Co-Training with Sharpness-Aware Optimization for Audio Anti-spoofing," in Proc. Interspeech.
- [Paper] Kihyun Nam, Youkyum Kim, Jaesung Huh, Hee Soo Heo, Jee-weon Jung, Joon Son Chung, "Disentangled representation learning for multilingual speaker recognition," in Proc. Interspeech.
- [Paper] Hee-Soo Heo, Jee-weon Jung, Jingu Kang, Youngki Kwon, You Jin Kim, Bong-Jin Lee, Joon Son Chung, "Curriculum learning for self-supervised speaker verification," in Proc. Interspeech.
- [Paper] Jee-weon Jung, Hee-Soo Heo, Bong-Jin Lee, Jaesung Huh, Andrew Brown, Youngki Kwon, Shinji Watanabe, Joon Son Chung, "In search of strong embedding extractors for speaker diarisation," in Proc. ICASSP.
- [Paper] You Jin Kim\*, Hee-Soo Heo\*, Jee-weon Jung\*, Youngki Kwon, Bong-Jin Lee, Joon Son Chung, "Advancing the dimensionality reduction of speaker embeddings for speaker diarisation: disentangling noise and informing speech activity," in Proc. ICASSP.
- [Paper] Hee-Soo Heo, Youngki Kwon, Bong-Jin Lee, You Jin Kim, Jee-weon Jung, "High-resolution embedding extractor for speaker diarisation," in Proc. ICASSP.
- [Paper] Youngki Kwon, Hee-Soo Heo, Bong-Jin Lee, You Jin Kim, Jee-weon Jung, "Absolute decision corrupts absolutely: conservative online speaker diarisation," in Proc. ICASSP.

- [Paper] Shih-Lun Wu, Xuankai Chang, Gordon Wichern, Jee-weon Jung, François G Germain, Jonathan Le Roux, Shinji Watanabe, "On the Use of Pretrained Deep Audio Encoders for Automated Audio Captioning Tasks," in Proc. FAST-zero.
- [Preprint] Jaesung Huh, Andrew Brown, Jee-weon Jung, Joon Son Chung, Arsha Nagrani, Daniel Garcia-Romero, Andrew Zisserman, "VoxSRC 2022: The Fourth VoxCeleb Speaker Recognition Challenge," in arXiv.
- [Tech. Rep] Shih-Lun Wu, Xuankai Chang, Gordon Wichern, Jee-weon Jung, François Germain, Jonathan Le Roux, Shinji Watanabe, "BEATs-based Audio Captioning Model with Instructor Embedding Supervision and ChatGPT Mix-up," in <a href="https://dcase.community/documents/challenge2023/technical\_reports/DCASE2023\_Wu\_31\_t6a.pdf">https://dcase.community/documents/challenge2023/technical\_reports/DCASE2023\_Wu\_31\_t6a.pdf</a>.
- [Tech. Rep] Hector Delgado, Nicholas Evans, Jee-weon Jung, Tomi Kinnunen, Ivan Kukanov, Kong Aik Lee, Xuechen Liu, Hye-jin Shim, Md Sahidullah, Hemlata Tak, Massimiliano Todisco, Xin Wang, Junichi Yamagishi, "ASVspoof 5 Evaluation Plan," in https://www.asvspoof.org/file/ASVspoof5\_\_Evaluation\_Plan.pdf.

[2022]: 10 publications, including 6 first author publications

- [Paper] Jee-weon Jung, Hee-Soo Heo, Hemlata Tak, Hye-jin Shim, Joon Son Chung, Bong-Jin Lee, Ha-Jin Yu, Nicholas Evans, "Aasist: Audio anti-spoofing using integrated spectro-temporal graph attention networks," in Proc. ICASSP.
- [Paper] Hye-jin Shim, Jee-weon Jung, Ju-ho Kim, Ha-Jin Yu, "Attentive Max Feature Map and Joint Training for Acoustic Scene Classification," in Proc. ICASSP.
- [Paper] Yongki Kwon, Hee-Soo Heo, Jee-weon Jung, You Jin Kim, Bong-Jin Lee, Joon Son Chung, "Multi-scale speaker embedding-based graph attention networks for speaker diarisation," in Proc. ICASSP.
- [Paper] Jee-weon Jung\*, You Jin Kim\*, Hee-Soo Heo, Bong-Jin Lee, Youngki Kwon, Joon Son Chung, "Pushing the limits of raw waveform speaker verification," in Proc. Interspeech.
- [Paper] Jee-weon Jung\*, Hemlata Tak\*, Hye-jin Shim, Hee-Soo Heo, Bong-Jin Lee, Soo-Whan Chung, Ha-Jin Yu, Nicholas Evans, Tomi Kinnunen, "SASV 2022: The First Spoofing-Aware Speaker Verification Challenge," in Proc. Interspeech.
- [Paper] Hye-jin Shim, Hemlata Tak, Xuechen Liu, Hee-Soo Heo, Jee-weon Jung, Joon Son Chung, Soo-Whan Chung, Ha-Jin Yu, Bong-Jin Lee, Massimiliano Todisco, Héctor Delgado, Kong Aik Lee, Md Sahidullah, Tomi Kinnunen, Nicholas Evans, "Baseline systems for the first spoofing-aware speaker verification challenge: score and embedding fusion," in Proc. Speaker Odyssey.
- [Paper] Hemlata Tak, Massimiliano Todisco, Xin Wang, Jee-weon Jung, Junichi Yamagishi, Nicholas Evans, "Automatic speaker verification spoofing and deepfake detection using wav2vec 2.0 and data augmentation," in Proc. Speaker Odyssey.
- [Paper] Sung Hwan Mun\*, Jee-weon Jung\*, Min Hyun Han, Nam Soo Kim, "Frequency and Multi-Scale Selective Kernel Attention for Speaker Verification," in Proc. SLT.
- [Preprint] Jee-weon Jung, Hee-Soo Heo, Bong-Jin Lee, Jaesong Lee, Hye-jin Hsim, Youngki Kwon, Joon Son Chung, Shinji Watanabe, "Large-scale learning of generalised representations for speaker recognition," in arXiv.
- [Preprint] Jee-weon Jung, Hemlata Tak, Hye-jin Shim, Hee-Soo Heo, Bong-Jin Lee, Soo-Whan Chung, Hong-Goo Kang, Ha-Jin Yu, Nicholas Evans, Tomi Kinnunen, "SASV Challenge 2022: A Spoofing Aware Speaker Verification Challenge Evaluation Plan," in arXiv.

[2021]: 10 publications, including 5 first author publications

- [Paper] Jee-weon Jung\*, Hee-Soo Heo\*, Ha-Jin Yu, Joon Son Chung, "Graph Attention Networks for Speaker Verification," in Proc. ICASSP.
- [Paper] Jee-weon Jung, Hye-jin Shim, Ju-ho Kim, Ha-Jin Yu, "DCASENET: An integrated pre-trained deep neural network for detecting and classifying acoustic scenes and events," in Proc. ICASSP.
- [Paper] Jee-weon Jung, Hee-Soo Heo, Youngki Kwon, Joon Son Chung, Bong-Jin Lee, "Three-class Overlapped Speech Detection using a Convolutional Recurrent Neural Network," in Proc. Interspeech.
- [Paper] Hye-jin Shim\*, Jee-weon Jung\*, Ju-ho Kim, Ha-jin Yu, "Capturing Discriminative Information Using a Deep Architecture in Acoustic Scene Classification," in Applied Sciences.
- [Paper] Youngki Kwon, Jee-weon Jung, Hee-Soo Heo, You Jin Kim, Bong-Jin Lee, Joon Son Chung, "Adapting Speaker Embeddings for Speaker Diarisation," in Proc. Interspeech.
- [Paper] Hemlata Tak, Jee-weon Jung, Jose Patino, Massimiliano Todisco, Nicholas Evans, "Graph Attention Networks for Anti-Spoofing," in Proc. Interspeech.
- [Paper] Hemlata Tak, Jee-weon Jung, Jose Patino, Madhu Kamble, Massimiliano Todisco, Nicholas Evans, "End-to-End Spectro-Temporal Graph Attention Networks for Speaker Verification Anti-Spoofing and Speech Deepfake Detection," in Proc. ASVspoof Workshop 2021 (Interspeech satellite).
- [Paper] Ju-ho Kim, Hye-jin Shim, Jee-weon Jung, Ha-Jin Yu, "A Supervised Learning Method for Improving the Generalization of Speaker Verification Systems by Learning Metrics from a Mean Teacher," in Applied Sciences.
- [Tech. Rep] Hee-Soo Heo\*, Jee-weon Jung\*, Hye-jin Shim, Bong-Jin Lee, "Clova Submission For The DCASE 2021 Challenge: Acoustic Scene Classification Using Light Architectures and Device Augmentation," in <a href="http://dcase.community/documents/challenge2021/technical\_reports/DCASE2021\_Heo\_30\_t1.pdf">http://dcase.community/documents/challenge2021/technical\_reports/DCASE2021\_Heo\_30\_t1.pdf</a>.

• [Tech. Rep] Hee-Soo Heo, Jee-weon Jung, Youngki Kwon, J Kim, Jaesung Huh, Joon Son Chung, Bong-Jin Lee, "NAVER Clova Submission To The Third DIHARD Challenge," in <a href="https://dihardchallenge.github.io/dihard3/system\_descriptions/dihard3\_system\_description\_team73.pdf">https://dihardchallenge.github.io/dihard3/system\_descriptions/dihard3\_system\_description\_team73.pdf</a>.

[2020]: 11 publications, including 9 first author publications

- [Paper] Jee-weon Jung, Hee-Soo Heo, Hye-jin Shim, Ha-Jin Yu, "Knowledge Distillation in Acoustic Scene Classification," in IEEE Access.
- [Paper] Jee-weon Jung, Hye-jin Shim, Ju-ho Kim, Seung-bin Kim, Ha-Jin Yu, "Acoustic Scene Classification using Audio Tagging," in Proc. Interspeech.
- [Paper] Hye-jin Shim\*, Jee-weon Jung\*, Ju-ho Kim, Ha-Jin Yu, "Integrated Replay Spoofing-Aware Text-Independent Speaker Verification," in Applied Sciences.
- [Paper] Seung-bin Kim\*, Jee-weon Jung\*, Hye-jin Shim, Ju-ho Kim, Ha-Jin Yu, "Segment Aggregation for short utterances speaker verification using raw waveforms," in Proc. Interspeech.
- [Paper] Jee-weon Jung\*, Seung-bin Kim\*, Hye-jin Shim, Ju-ho Kim, Ha-Jin Yu, "Improved rawnet with filter-wise rescaling for text-independent speaker verification using raw waveforms," in Proc. Interspeech.
- [Paper] Jee-weon Jung\*, Ju-ho Kim\*, Hye-jin Shim, Seung-bin Kim, Ha-Jin Yu, "Selective Deep Speaker Embedding Enhancement for Speaker Verification," in Proc. Speaker Odyssey.
- [Paper] Ju-ho Kim\*, Jee-weon Jung\*, Hye-jin Shim, Ha-Jin Yu, "Audio Tag Representation Guided Dual Attention Network for Acoustic Scene Classification," in Proc. DCASE Workshop.
- [Paper] Jee-weon Jung, Hye-jin Shim, Ju-ho Kim, Ha-Jin Yu, " $\alpha$ -feature map scaling for raw waveform speaker verification," in the Journal of the Acoustical Society of Korea.
- [Paper] Hye-jin Shim, Hee-Soo Heo, **Jee-weon Jung**, Ha-Jin Yu, "Self-supervised pre-training with acoustic configurations for replay spoofing detection," in Proc. Interspeech.
- [Preprint] Jee-weon Jung, Hye-jin Shim, Hee-Soo Heo, Ha-Jin Yu, "A study on the role of subsidiary information in replay attack spoofing detection," in arXiv.
- [Tech. Rep] Hye-jin Shim, Ju-ho Kim, Jee-weon Jung, Ha-jin Yu, "Audio tagging and deep architectures for acoustic scene classification: Uos submission for the DCASE 2020 challenge," in <a href="https://dcase.community/documents/challenge2020/technical\_reports/DCASE2020\_Shim\_120.pdf">https://dcase.community/documents/challenge2020/technical\_reports/DCASE2020\_Shim\_120.pdf</a>.

[2019]: 7 publications, including 4 first author publications

- [Paper] Jee-weon Jung, Hee-Soo Heo, Ju-ho Kim, Hye-jin Shim, Ha-Jin Yu, "RawNet: Advanced end-to-end deep neural network using raw waveforms for text-independent speaker verification," in Proc. Interspeech.
- [Paper] Jee-weon Jung\*, Hye-jin Shim\*, Hee-Soo Heo, Ha-Jin Yu, "Replay attack detection with complementary high-resolution information using end-to-end DNN for the ASVspoof 2019 Challenge," in Proc. Interspeech.
- [Paper] Hee-Soo Heo\*, Jee-weon Jung\*, Hye-jin Shim, Ha-Jin Yu, "Acoustic scene classification using teacher-student learning with soft-labels," in Proc. Interspeech.
- [Paper] Hee-Soo Heo, Jee-weon Jung, IL-Ho Yang, Sung-Hyun Yoon, Hye-jin Shim, Ha-Jin Yu, "End-to-end losses based on speaker basis vectors and all-speaker hard negative mining for speaker verification," in Proc. Interspeech.
- [Paper] Jee-weon Jung\*, Hee-Soo Heo\*, Hye-jin Shim, Ha-Jin Yu, "Distilling the Knowledge of Specialist Deep Neural Networks in Acoustic Scene Classification," in Proc. DCASE Workshop.
- [Paper] Ju-ho Kim, Hee-Soo Heo, Jee-weon Jung, Hye-jin Shim, Seung-Bin Kim, Ha-Jin Yu, "Utilization of age information for speaker verification using multi-task learning deep neural networks," in the Journal of the Acoustical Society of Korea.
- [Preprint] Hee-Soo Heo, Jee-weon Jung, Hye-jin Shim, IL-Ho Yang, Ha-Jin Yu, "Cosine similarity-based adversarial process," in arXiv.

[2018]: 6 publications, including 5 first author publications

- [Paper] Jee-weon Jung, Hee-Soo Heo, Il-ho Yang, Hye-jin Shim, Ha-Jin Yu, "A Complete End-to-End Speaker Verification System using Deep Neural Networks: from Raw Signals to Verification Result," in Proc. ICASSP.
- [Paper] Jee-weon Jung, Hee-Soo Heo, IL-Ho Yang, Hye-Jin Shim, Ha-Jin Yu, "Avoiding Speaker Overfitting in End-to-End DNNs using Raw Waveform for Text-Independent Speaker Verification," in Proc. Interspeech.
- [Paper] Jee-weon Jung\*, Hee-soo Heo\*, Hye-jin Shim, Ha-Jin Yu, "Short utterance compensation in speaker verification via cosine-based teacher-student learning of speaker embeddings," in Proc. IEEE ASRU.
- [Paper] Jee-weon Jung\*, Hee-Soo Heo\*, Hye-jin Shim, Ha-Jin Yu, "DNN based multi-level features ensemble for acoustic scene classification," in Proc. DCASE Workshop.
- [Paper] Jee-weon Jung, Hee-Soo Heo, Hye-jin Shim, Ha-Jin Yu, "Multi channel far field speaker verification using teacher student deep neural networks," in the Journal of the Acoustical Society of Korea.
- [Paper] Hye-jin Shim, Jee-weon Jung, Hee-Soo Heo, Sung-Hyun Yoon, Ha-Jin Yu, "Replay spoofing detection system for automatic speaker verification using multi-task learning of noise classes," in Proc. IEEE TAAI.

[2017]: 3 publications, including 2 first author publications

- [Paper] Jee-weon Jung, Heesoo Heo, Ilho Yang, Sunghyun Yoon, Hyejin Shim, Hajin Yu, "D-vector based speaker verification system using Raw Waveform CNN," in Proc. ANIT.
- [Paper] Jee-weon Jung, Hee-Soo Heo, IL-Ho Yang, Sung-Hyun Yoon, Hye-Jin Shim, Ha-Jin Yu, "DNN-based audio scene classification for DCASE 2017: dual input features, balancing cost, and stochastic data duplication," in Proc. DCASE Workshop.
- [Paper] Hee-soo Heo, Jee-weon Jung, IL-ho Yang, Sung-hyun Yoon, Ha-jin Yu, "Joint training of expanded end-to-end DNN for text-dependent speaker verification," in Proc. Interspeech.