Jee-weon Jung (updated June 28, 2024)

Github: https://github.com/Jungjee

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

Webpage: https://jungjee.github.io

**EDUCATION** 

PhD, Computer Science and Engineering

March 2017 - February 2021

Seoul, Republic of Korea

Email: jeeweonj@ieee.org

Thesis: Raw waveform speaker verification using an end-to-end deep neural network architecture and feature map scaling

Supervisor: Ha-Jin Yu

University of Seoul

March 2013 - February 2017 University of Seoul Seoul, Republic of Korea

BS, Computer Science and Engineering (Double major) March 2013 - February 2017 Seoul, Republic of Korea University of Seoul

Professional Experience

Carnegie Mellon University

May 2023 -

 $Postdoctoral\ Research\ Associate$ 

o Papers: published 23 peer-reviewed papers

Naver Clova, Republic of Korea

December 2020 - April 2023

Research Scientist (full time)

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

## Honors and Awards

- 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 (acoustic scene classification, ASC) 2021
- Ranked 6th place at the DCASE 2019 Challenge task 1 (acoustic scene classification, ASC) 2019
- Samsung Convergence Software Course Scholarship 2015

## SKILLS

- Language skills: English, Korean (native), Chinese
- Programming: Python, Bash, C
- Toolkits: PyTorch, Theano, Keras, Kaldi

## Community Engagements

Organiser 2022-

SASV special session at Interspeech (founding organiser), VoxSRC workshop, ASVSpoof

Session Chair 2022 -

ICASSP, Interspeech

Reviewer 2019 -

IEEE TASLP, ICASSP, Interspeech, CSL, DCASE, IEEE SPL, IEEE Access, Nature scientific reports

Teaching

Speaker recognition and diarization – guest lecture

Spring 2024

Carnegie Mellon University, 11492/11692/18495: Speech Technology for Conversational AI

PA, United States Spring 2023

Speaker recognition in speech processing – guest lecture Carnegie Mellon University, 11492/11692/18495: Speech Processing

PA, United States

January 2019

September 2019 Jeju, Republic of Korea

Python programming Korea Meteorological Administration

Python for deep learning

May 2019

Korea Meteorological Administration

Jeju, Republic of Korea

Raw waveform speaker verification

Kyung-qi, Republic of Korea

Naver tech talk

[2024]: 19 publications, including 6 first author publications

- [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] 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.
- [Preprint] 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 arXiv.

[2023]: 13 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.
- [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 ASVspoof Workshop (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, "α-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 https://dcase.community/documents/challenge2020/technical\_reports/DCASE2020\_Shim\_120.pdf.

[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. 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.