

# Jee-weon Jung

Google Scholar

Github: [github.com/Jungjee](https://github.com/Jungjee)

Email: [jeewon.leo.jung@gmail.com](mailto:jeewon.leo.jung@gmail.com)

Mobile: +82-10-9170-3701

## EDUCATION

- 
- **PhD, Computer Science and Engineering** March 2017 - February 2021  
*University of Seoul*  
*Seoul, Republic of Korea*  
*Thesis: Raw waveform speaker verification using an end-to-end deep neural network architecture and feature map scaling*  
*Supervisor: Ha-Jin Yu*
  - **BBA** March 2013 - February 2017  
*University of Seoul*  
*Seoul, Republic of Korea*
  - **BS, Computer Science and Engineering (Double major)** March 2013 - February 2017  
*University of Seoul*  
*Seoul, Republic of Korea*

## PROFESSIONAL EXPERIENCE

- 
- **Naver Clova, Republic of Korea** December 2020 -  
*Research Scientist (full time)*
    - **Speaker recognition:** developed speaker verification models for ClovaNote service
    - **Sound(audio) event detection:** developed volleyball whistle detection model for Naver volleyball streaming service.
    - **Audio anti-spoofing:** Developed state-of-the-art anti-spoofing system.
    - **Papers and patents:** published 21 papers and filed 2 patents

## HONORS AND AWARDS

- 
- Ranked 3rd place at the Third DIHARD Speech Diarisation Challenge (track 1 core) - 2021
  - Ranked 4th place at the DCASE 2021 Challenge task 1 - 2021
  - Ranked 6th place at the DCASE 2021 Challenge task 1 - 2019
  - Ranked 7th place at the DCASE 2021 Challenge task 1 - 2018
  - Ranked 8th place at the DCASE 2021 Challenge task 1 - 2017
  - Samsung Convergence Software Course Scholarship - 2015

## SKILLS

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

## COMMUNITY ENGAGEMENTS

- 
- **Organiser** 2022  
*SASV challenge (Special session at Interspeech, founding organiser), VoxSRC workshop*
  - **Session Chair** 2022  
*ICASSP*
  - **Reviewer** 2019 -  
*ICASSP, Interspeech, EUSIPCO, CSL, DCASE, IEEE SPL, IEEE Access, Nature scientific reports*

## TEACHING

- 
- **Python programming** September 2019  
*Korea Meteorological Administration*  
*Jeju, Republic of Korea*
  - **Python for deep learning** May 2019  
*Korea Meteorological Administration*  
*Jeju, Republic of Korea*
  - **Raw waveform speaker verification** January 2019  
*Naver tech talk*  
*Kyung-gi, Republic of Korea*

[2022]: 11 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] 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.
- [Preprint (Interspeech submission)] You Jin Kim\*, Hee-Soo Heo\*, **Jee-weon Jung\***, Youngki Kwon, Bong-Jin Lee, Joon Son Chung, “Disentangled dimensionality reduction for noise-robust speaker diarisation,” in arXiv.
- [Preprint (Interspeech submission)] **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 arXiv.
- [Preprint (Interspeech submission)] **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 arXiv.
- [Preprint (Interspeech submission)] Sung Hwan Mun\*, **Jee-weon Jung\***, Nam Soo Kim, “Selective Kernel Attention for Robust Speaker Verification,” 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.
- [Preprint (Interspeech submission)] Hee-Soo Heo, **Jee-weon Jung**, Jingu Kang, Youngki Kwon, You Jin Kim, Bong-Jin Lee, Joon Son Chung, “Self-supervised curriculum learning for speaker verification,” 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 [http://dcase.community/documents/challenge2021/technical\\_reports/DCASE2021\\_Heo\\_30\\_t1.pdf](http://dcase.community/documents/challenge2021/technical_reports/DCASE2021_Heo_30_t1.pdf).
- [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 [https://dihardchallenge.github.io/dihard3/system\\_descriptions/dihard3\\_system\\_description\\_team73.pdf](https://dihardchallenge.github.io/dihard3/system_descriptions/dihard3_system_description_team73.pdf).

[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, “-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](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. 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] **Jeeweon 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.