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Google Scholar: <https://scholar.google.com/citations?user=38VmcmoAAAAJ>

- EDUCATION
- ◇ **Ph.D. in Electrical and Computer Engineering**, December 2006
University of Illinois at Urbana-Champaign, Urbana, Illinois, United States
Thesis: "Robust Speech Recognition in a Car Using a Microphone Array"
Advisor: Dr. Mark Hasegawa-Johnson
 - ◇ **M.S. in Electrical and Computer Engineering**, May 2003
University of Illinois at Urbana-Champaign, Urbana, Illinois, United States
Thesis: "Open-Loop Multichannel Inversion of Room Impulse Response"
Advisor: Dr. Mark Hasegawa-Johnson
 - ◇ **B.S. in Electrical Engineering**, February 2000
Seoul National University, Seoul, South Korea
- ACADEMIC APPOINTMENTS
- ◇ **Professor**, Department of Electronic Engineering, Inha University, South Korea (March 2023 – Present)
 - ◇ **Affiliate Professor**, Department of Artificial Intelligence, Inha University, South Korea (March 2020 – Present)
 - ◇ **Associate Professor**, Department of Electronic Engineering, Inha University, South Korea (March 2018 – February 2023)
 - ◇ **Assistant Professor**, Department of Electronic Engineering, Inha University, South Korea (March 2014 – February 2018)
- ACADEMIC SERVICES
- ◇ **Department Head**, Department of Electronic Engineering, Inha University, South Korea (August 2021 – August 2023)
 - ◇ **Chair**, Artificial Intelligence Major, Department of Electrical and Computer Engineering, Inha University, South Korea (February 2021 – February 2022)
- INDUSTRY EXPERIENCES
- ◇ **Founder and Chief Executive Officer**, SpeechWise Inc., Incheon, South Korea (October 2023 – Present)
 - ◇ **Technical Consultant**, Xperi Corporation (DTS), Los Gatos, CA, United States (January 2020 – June 2020)

- ◇ **Senior Research Scientist**, Hewlett-Packard Laboratories, Palo Alto, CA, United States (March 2012 – February 2014)
- ◇ **Research Scientist**, Hewlett-Packard Laboratories, Palo Alto, CA, United States (February 2007 – February 2012)
- ◇ **Summer Engineering Internship**, Motorola Labs, Schaumburg, IL, United States (May 2005 – August 2005)

OTHER
APPOINTMENTS

- ◇ **Advisory Board Member**, Korea Armed Forces Welfare Agency (July 2021 – Present)
 - Consultation on the applications of large language models
 - Consultation on artificial intelligence and information technologies
 - Development of demand prediction algorithms for military supplies
- ◇ **Graduate Research Assistant**, University of Illinois, Urbana, IL, United States (May 2001 – December 2006)
- ◇ **Research Programmer**, University of Illinois, Urbana, IL, United States (August 2000 – May 2001)

PROFESSIONAL
ACTIVITIES

- ◇ **Guest Editor**
 - Special Issue on Wireless Acoustic Sensor Networks and Applications, Wireless Communications and Mobile Computing, 2017
- ◇ **Organizing Committee**
 - General Chair, IEEE Automatic Speech Recognition and Understanding Workshop (ASRU) 2025, Jeju, Korea (*currently in the bidding process*)
 - Local Operations Chair, ISCA Interspeech 2022, Incheon, Korea
 - Young Female Researchers in Speech Workshop (YFRSW) 2022, Incheon, Korea
 - Awards Chair, IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP) 2018, Calgary, AB, Canada
- ◇ **Technical Program Committee/Reviewer**
 - IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP) 2013–2024
 - ISCA Interspeech 2020–2023
 - IEEE International Workshop on Multimedia Signal Processing (MMSP) 2013–2023
 - IEEE International Conference on Multimedia & Expo (ICME) 2010–2022
 - IEEE Workshop on Applications of Signal Processing to Audio and Acoustics (WASPAA) 2011–2019
 - European Signal Processing Conference (EUSIPCO) 2015–2018
 - ACM Muntimedia 2021
 - IEEE International Workshop on Acoustic Signal Enhancement, 2018
 - IEEE/ISCA Joint Workshop on Hands-Free Speech Communication and Microphone Arrays (HSCMA) 2014

- IEEE Joint Digital Signal Processing Workshop & Signal Processing Education Workshop (DSP/SPE) 2011, 2013

◇ **Technical Referee**

- IEEE/ACM Transactions on Audio, Speech, and Language Processing
- IEEE Transactions on Signal Processing
- IEEE Signal Processing Letters
- IEEE Journal of Selected Topics in Signal Processing
- IEEE Transactions on Multimedia
- IEEE Transactions on Mobile Computing
- IEEE Transactions on Information Forensics and Security
- IEEE Journal of Selected Topics in Signal Processing
- IEEE Access
- Journal of Acoustical Society of America
- ACM Transactions on Multimedia Computing, Communications, and Applications
- ISCA Computer Speech and Language
- EURASIP Signal Processing
- ELSVIER Applied Acoustics
- ELSVIER Digital Signal Processing

◇ **Academic Society Membership**

- IEEE Senior Member (Signal Processing Society)
- International Speech Communication Association (ISCA)
- The Korean Society of Speech Sciences (KSSS)
- The Korean Society for Augmentative and Alternative Communication (KSAAC)

HONORS/
AWARDS

- ◇ **Senior Member**, Signal Processing Society, IEEE (Student 2000, Member 2007, Senior 2011)
- ◇ **Best Video Award** for “Real-Time Object Identification with a Smartphone Knock” at the 17th ACM International Conference on Mobile Systems, Applications, and Services (MobiSys), 2019
- ◇ **Top 10% Awards** for two papers “ConnectBoard: A remote collaboration system that supports gaze-aware interaction and sharing” and “An Objective Method for Quality Assessment of Ultra-Wideband Speech Corrupted by Echo” at the IEEE International Workshop on Multimedia Signal Processing (MMSP), 2009
- ◇ **Scholarship** from the Institute of Information Technology Assessment, Seoul, Korea, 2000–2003.
- ◇ **Army Commendation Medal (ARCOM)** by the United States Army, 1997

INVITED
TALKS

- ◇ **“Making Sense Out of Sequential Data”**
 - Samsung Research, Seoul, South Korea, December 13, 2023
- ◇ **“Understanding Large Language Models”**
 - Korea University, Seoul, South Korea, December 1, 2023

- ◇ **“Understanding ChatGPT”**
 - Korea Armed Forces Welfare Agency, Seoul, South Korea, November 7, 2023
- ◇ **“Inclusive AI Technologies”**
 - Special Education Research Institute, Ewha Womans University, Seoul, South Korea, September 23, 2023
- ◇ **“Understanding ChatGPT”**
 - Seoul National University of Education, Seoul, South Korea, May 24, 2023
- ◇ **“ChatGPT and Beyond”**
 - Ewha Womans University, Seoul, South Korea, March 27, 2023
- ◇ **“How ChatGPT Will Change the World”**
 - Seoul National University of Education, Seoul, South Korea, March 24, 2023
- ◇ **“Making Sense Out of One Dimensional Signals”**
 - Hitach R&D America, Santa Clara, CA, USA, February 28, 2020
- ◇ **“Making Sense Out of One Dimensional Signals”**
 - Microsoft Inc., Redmond, WA, USA, October 18, 2019
- ◇ **“Acoustic Sensing With Artificial Intelligence”**
 - NVIDIA Deep Learning Day, Seoul, South Korea, October 31, 2017
- ◇ **“Sound Source Localization by Machines”**
 - Hearing Seminar at the Center for Computer Research in Music and Acoustics, Stanford University, Stanford, California, May 23, 2014
- ◇ **“Multimodal Fusion for Simultaneous Speaker Detection and Localization”**
 - Department of Electrical and Computer Engineering, University of British Columbia, Vancouver, Canada, May 20, 2014
- ◇ **“Immersive Audio Communication”**
 - 3D Applications, Content, and Systems Symposium at University of Illinois at Urbana-Champaign, Urbana, IL, May 2010
- ◇ **“Sound Source Localization for Multimedia Collaboration”**
 - Federal University of Rio de Janeiro, Rio de Janeiro, Brazil, October 2009
- ◇ **“Open-Loop Dereverberation of Multichannel Room Impulse Responses”**
 - Seoul National University, Seoul, South Korea, July 2003

TEACHING
EXPERIENCES

- ◇ **Graduate Courses**
 - Digital Signal Processing, Spring 2015–2021
 - Digital Speech Processing, Fall 2017–2023
 - Digital Image Processing, Summer 2014
- ◇ **Undergraduate Courses**
 - Audio Signal Processing, Spring 2016–2021
 - Random Variables (formerly Probability and Statistics), Spring/Fall 2016–2023
 - Signals and Systems, Spring 2017–2023

- Introduction to AI, Spring 2021–2022
 - Introduction to Machine Learning, Fall 2021
 - Electronic Circuits 1/2, Fall 2014/Spring 2015
 - Creative Electronic Engineering Design, Spring/Fall 2014–2016
- ◇ **Guest Lecture**
- “Speech Enhancement,” EE 264, Stanford University, Fall 2012, 2013

**FUNDING
RECORD**

- ◇ **A²HCI: Autism Focused Augmented HCI Solution Enhancing ASD User Experiences (2023–2026)**
- Granted 199,690,000 KRW by National Research Foundation (NRF) for the academic year 2023.
- ◇ **Electromagnetic Security Specialized Lab (2023–2026)**
- Granted 150,000,000 KRW by Agency for Defense Development (ADD) for the academic year 2023.
- ◇ **AI-Based In-Situ Advanced Processing Control for Semiconductor Manufacturing Process (2022–2023)**
- Principal Investigator
 - Granted 100,000,000 KRW by TES Inc.
- ◇ **Artificial Intelligence Graduate Program (2022–2024)**
- Granted 1,870,000,000 KRW by Korea Agency for Infrastructure Technology Advancement for the academic year 2022.
- ◇ **Digital Transformation for Inclusive and Sustainable Disability-Friendly Society (2021–2024)**
- Granted 186,915,000 KRW by National Research Foundation (NRF) for the academic year 2022.
- ◇ **Deep Learning Algorithms for Semiconductor Manufacturing Process Using Big Data and Edge Computing (2021–2022)**
- Principal Investigator
 - Granted 120,000,000 KRW by TES Inc.
- ◇ **Social Communication Enhancement Solution Based on Context Analysis Using Natural Language Processing and Extended Reality for People With Developmental Disabilities (2021–2024)**
- Granted 124,610,000 KRW by National Research Foundation (NRF) for the academic year 2023.
- ◇ **Development of End-to-End Spoken Language Understanding Model Using Pretrained Language Models (2020–2021)**
- Principal Investigator
 - Granted 17,820,000 KRW by Naver Inc.
- ◇ **Center for Artificial Intelligence Convergence Research (2020–2022)**
- Granted 4,125,000,000 KRW by Korea Agency for Infrastructure Technology Advancement for the academic year 2020.

- ◇ **Serious Game for Young Adults with Autism Spectrum Disorders Promoting Social and Emotional Skills: Real-Time Analytics Solution (2018–2021)**
 - Granted 287,286,000 KRW by the National Research Foundation (NRF) of Korea.
- ◇ **ICT Convergence Cluster for Alphagrid Platform (2018–2020)**
 - Granted 1,080,000,000 KRW by Korea Electric Power Corporation (KEPCO).
- ◇ **Commercial Vehicle-Based Road and Traffic Information System (2018–2020)**
 - Principal Investigator
 - Granted 250,000,000 KRW by Korea Agency for Infrastructure Technology Advancement.
- ◇ **Development of Human-Friendly Human-Robot Interaction Technologies Using Human Internal Emotional States Recognition (2016–2021)**
 - Granted 1,500,000,000 KRW by the Industrial Technology Innovation Program funded by the Ministry of Trade, Industry & Energy of the Republic of Korea.
- ◇ **Verification and Implementation of Energy Consulting System for Small-Size Factories and Buildings based on Big Data Analysis using Submetering with Embedded EMS (2016–2019)**
 - Granted 1,032,250,000 KRW by the Korea Institute of Energy Technology Evaluation and Planning (KETEP) and the Ministry of Trade, Industry & Energy (MOTIE) of the Republic of Korea.
- ◇ **Development of Estrus Detection System by Cow's Standing Heat and Mounting (2018–2019)**
 - Principal Investigator
 - Granted 110,000,000 KRW by the Institute of Information and Communications Technology Planning and Evaluation of the Republic of Korea.
- ◇ **Intelligent Car Technology Based on Multi-Modal Sensor Fusion (2015–2018)**
 - Principal Investigator
 - Granted 150,696,000 KRW by the National Research Foundation (NRF) of Korea.
- ◇ **Information and Communication Technology Education of Engineers for Small and Medium Businesses in South Korea (2014-2015)**
 - Granted 265,800,000/355,000,000 KRW by the Korea Institute for the Advancement of Technology (KIAT) for the academic year 2014/2015.
- ◇ **Movement Detection Using Accelerometer and Gyro Sensors (2015)**
 - Principal Investigator
 - Granted 10,000,000 KRW by the Inha University Research Board for the academic year 2015.
- ◇ **Speech Endpoint Detection for Intuitive User Interface (2014)**
 - Principal Investigator
 - Granted 10,000,000 KRW by the Inha University Research Board for the academic year 2014.
- ◇ **Immersive Headphone-Free Virtual Reality Audio (2001–2002)**
 - Acoustic control of the Beckman Cube as a part of the Adaptive Laboratory for Immersive Collaborative Experiments (ALICE) Project

- Granted 18,000 USD by University of Illinois Research Board for the academic year 2001–2002.

TECHNOLOGY
TRANSFERS

- ◇ **Apparatus and Method for Providing Automatic Alarm for Hazardous Situation According to the Open-Door of the Vehicle (2023)**
 - Patent Transfer (Republic of Korea Patent No. 10-1759020)
 - Received 10,000,000 KRW by Speed Floor Inc. on September 26, 2023.
- ◇ **Algorithm and System Design for Shooting Sound Detection (2023)**
 - Technology Know-How Transfer
 - Received 30,000,000 KRW by Corners Inc. on May 31, 2023.
- ◇ **System and Methods for Motor Deterioration Detection by Real-Time Motor Current Analysis (2022)**
 - Patent Transfer (Republic of Korea Patent No. 10-2216513)
 - Received 10,000,000 KRW by Movic Lab Inc. on October 12, 2022.
- ◇ **AI Algorithm Development for Estimating Consignment Fees (2022)**
 - Technology Know-How Transfer
 - Received 10,000,000 KRW by YWMobile Inc. on August 31, 2022.
- ◇ **Method and Apparatus for Control of Selective Exterior Noise Influx in a Vehicle (2017)**
 - Non-Exclusive License (Republic of Korea Patent No. 10-1516921)
 - Received 10,000,000 KRW by Hanyang Robotics Inc. on April 13, 2017.

PATENTS

- ◇ *United States Patents*
- 1. **US 10,591,580**, **Bowon Lee** and Souvik Sen, “Determining Location Using Time Difference of Arrival,” March 17, 2020.
- 2. **US 10,129,640**, Victor Lee and **Bowon Lee**, “Suppressing a Modal Frequency of a Loudspeaker,” November 13, 2018.
- 3. **US 9,723,263**, **Bowon Lee**, “Audio Processing of Shared Content,” August 1, 2017.
- 4. **US 9,258,647**, **Bowon Lee**, “Obtaining a Spatial Audio Signal Based on Microphone Distances and Time Delays,” February 6, 2016.
- 5. **US 9,154,730**, **Bowon Lee** and Debargha Mukherjee, “System and Method for Determining the Active Talkers in a Video Conference,” October 6, 2015.
- 6. **US 9,055,190**, Kar-Han Tan, **Bowon Lee**, and Ian Robinson, “Arrangement of Multiple Audiovisual Streams,” June 9, 2015.
- 7. **US 8,699,637**, **Bowon Lee**, Ronald W. Schafer, and Ton Kalker, “Time Delay Estimation,” April 15, 2014.
- 8. **US 8,558,894**, Kar-Han Tan and **Bowon Lee**, “Support for Audience Interaction in Presentations,” October 15, 2013.
- 9. **US 8,553,904**, Amir Said, **Bowon Lee**, and Ton Kalker, “Systems and Methods for Performing Sound Source Localization,” October 8, 2013.
- 10. **US 8,451,315**, **Bowon Lee**, “System and Method for Distributed Meeting Capture,” May 28, 2013.

11. **US 8,411,126**, **Bowon Lee**, Ton Kalker, and Kar-Han Tan, "Methods And Systems For Close Proximity Spatial Audio Rendering," April 2, 2013.
12. **US 8,218,780**, Thomas A. Baran, **Bowon Lee**, Ronald W. Schafer, and Majid Fozunbal, "Methods and Systems for Blind Dereverberation," July 10, 2012.
13. **US 8,174,932**, **Bowon Lee** and Kar-Han Tan, "Multimodal Object Localization," May 8, 2012.

◇ *Republic of Korea Patents*

14. **KR 10-2553340**, Oseok Ryu and **Bowon Lee**, "Light Source Recognition Algorithm in Image using Object Silhouette," July 4, 2023.
15. **KR 10-2546155**, Young Tack Lee, Minku Choi, Minjong Lee, and **Bowon Lee**, "Multistage Optoelectronic-Neuromorphic Process System Based On Optoelectronic Devices," June 16, 2023.
16. **KR 10-2519156**, **Bowon Lee**, "System And Methods for Locating Mobile Devices Using Wireless Headsets," April 3, 2023.
17. **KR 10-2503091**, **Bowon Lee** and Jingyeom Kim, "Automatic P2P Energy Trading Method Based on Reinforcement Learning Using Long Short-Term Delayed Reward," February 20, 2023.
18. **KR 10-2427882**, **Bowon Lee** and Youngsun Lee, "System and Method for Real-Time Video Sharing for Online Interactions," July 7, 2022.
19. **KR 10-2296025**, **Bowon Lee** and Taehyun Hwang, "Traffic Information Collection Device Using Laser Waveform Analysis and Vehicle License Plate Number Recognition," August 25, 2021.
20. **KR 10-2259332**, **Bowon Lee**, Taeyong Kim, Sanghong Kim, Joon Hee Choi, and Youngsun Lee, "Object Detection and Guidance System for People With Visual Impairment," May 26, 2021.
21. **KR 10-2239084**, Young Tack Lee, Minjong Lee, Minku Choi, Taewook Kim and **Bowon Lee**, "Analog-Digital Interface SRAM Based on Optoelectronic Devices," April 6, 2021.
22. **KR 10-2220164**, **Bowon Lee** and Wonkeun Lee, "Region of Interest (ROI) Extraction Methods for Fog Detection," April 6, 2021.
23. **KR 10-2216513**, **Bowon Lee**, "Methods and Apparatus for Motor Deterioration Detection by Real-Time Motor Current Analysis," February 9, 2021. (*Transferred to MOVIC Lab Inc. for 10,000,000 KRW.*)
24. **KR 10-2200865**, **Bowon Lee** and Youngsun Lee, "System and Method for the Privacy Protection of Image Data," January 5, 2021.
25. **KR 10-2096588**, **Bowon Lee** and Kyungtae Kim, "Sound Privacy Method for Audio System Using Custom Noise Profile," March 27, 2020.
26. **KR 10-2079916**, **Bowon Lee** and Jingyeom Kim, "System and Method for Cost-Effective Notification of Home Appliance Usage Considering Billing Rate and Power Consumption Pattern," February 17, 2020.
27. **KR 10-2051493**, Sungju Lee, Taesik Gong, Hyunsung Cho, and **Bowon Lee**, "Method and Apparatus for Identifying Obeject Based on Knock," November 27, 2019.
28. **KR 10-1871102**, **Bowon Lee** and Kyungtae Kim, "Wearable Guitar Multi Effector Apparatus and Method for Controlling the Apparatus With Arm Band," June 19, 2018.

29. **KR 10-1759020**, **Bowon Lee** and Ui Gang Jeong, "Apparatus and Method for Providing Automatic Alarm for Hazardous Situation According to the Open-door of the Vehicle," July 11, 2017.
30. **KR 10-1478951**, Sang Chul Lee and **Bowon Lee**, "Method and System for Pedestrian Safety using Inaudible Acoustic Proximity Alert Signal," December 26, 2014.
31. **KR 10-1469420**, Sang Chul Lee and **Bowon Lee**, "Method and Apparatus for Control of Adaptive Suspension using Wind Noise in Driving," December 26, 2014.
32. **KR 10-1516921**, Sang Chul Lee and **Bowon Lee**, "Method and Apparatus for Control of Selective Exterior Noise Influx in a Vehicle," April 24, 2014.

PUBLICATIONS ◇ *Journal Papers*

1. Dohee Kang, Daeha Kim, Donghyun Kang, Taein Kim, **Bowon Lee**, Deokhwan Kim, and Byung Cheol Song, "Beyond superficial emotion recognition: Modality-adaptive emotion recognition system," *Expert Systems With Applications*, Vol. 235, January 2024.
2. Jiyong Seo and **Bowon Lee**, "Multi-Task Conformer with Multi-Feature Combination for Speech Emotion Recognition," *Symmetry*, Vol. 14, No. 7, July 2022.
3. Jin-Gyeom Kim and **Bowon Lee**, "Automatic P2P Energy Trading Model Based on Reinforcement Learning Using Long Short-Term Delayed Reward," *Energies*, Vol. 13, No. 20, July 2020.
4. Minku Choi, Minjong Lee, **Bowon Lee**, and Young Tack Lee, "Multistage Opto-Neuromorphic Process System Based on Commercial Optoelectric Devices," *Current Applied Physics*, Vol. 20, No. 10, pp. 1125–1129, October 2020.
5. Hunjun Yang, Hyeok Jang, Taeyong Kim, and **Bowon Lee**, "Non-Temporal Lightweight Fire Detection Network for Intelligent Surveillance Systems," *IEEE Access*, Vol. 7, pp. 169257–169266, November 2019.
6. Taesik Gong, Hyunsung Cho, **Bowon Lee**, and Sung-Ju Lee, "Knocker: Vibroacoustic-Based Object Recognition with Smartphones," *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies*, Vol. 3, No. 3, pp. 1–21, September 2019.
7. Jin-Gyeom Kim and **Bowon Lee**, "Appliance Classification by Power Signal Analysis Based on Multi-Feature Combination Multi-Layer LSTM," *Energies*, Vol. 12, No. 14, July 2019.
8. Minjong Lee, Minku Choi, Tae Wook Kim, **Bowon Lee**, and Young Tack Lee, "Opto-Electric Analog SRAM Device Based on Commercial LEDs and Photodetectors," *Journal of the Korean Physical Society*, Vol. 74, No. 12, pp. 1166–1170, June 2019.
9. Maximo Cobos, Fabio Antonacci, Athanasios Mouchtaris, and **Bowon Lee**, "Wireless Acoustic Sensor Networks and Applications," *Wireless Communications and Mobile Computing*, December 2017.
10. Diego B. Haddad, Wallace A. Martins, Maurício V. M. Costa, Luiz W. P. Biscainho, Leonardo O. Nunes, and **Bowon Lee**, "Acoustic Sensor Self-Localization: Models and Recent Results," *Wireless Communications and Mobile Computing*, October 2017.
11. Maximo Cobos, Fabio Antonacci, Anastasios Alexandridis, Athanasios Mouchtaris, and **Bowon Lee**, "A Survey of Sound Source Localization Methods in Wireless Acoustic Sensor Networks," *Wireless Communications and Mobile Computing*, August 2017.
12. Jaehyup Jeong, Insu Won, Hunjun Yang, **Bowon Lee**, and Dongseok Jeong, "Deformable Object Matching Algorithm Using Fast Agglomerative Binary Search Tree Clustering," *Symmetry*, Vol. 9, No. 2, February 2017.

13. Diego B. Haddad, Wallace A. Martins, Maurício V. M. Costa, Luiz W. P. Biscainho, Leonardo O. Nunes, and **Bowon Lee**, "Robust Acoustic Self-Localization of Mobile Devices," *IEEE Transactions on Mobile Computing*, Vol. 15, No. 4, April 2016.
14. Vicente P. Minotto, Claudio R. Jung, and **Bowon Lee**, "Multimodal Multi-Channel On-Line Speaker Diarization Using Sensor Fusion Through SVM," *IEEE Transactions on Multimedia*, Vol. 17, No. 10, pp. 1694–1705, October 2015.
15. Markus V. S. Lima, Wallace A. Martins, Leonardo O. Nunes, Luiz W. P. Biscainho, Tadeu N. Ferreira, Maurício V. M. Costa, and **Bowon Lee**, "A Volumetric SRP with Refinement Step for Sound Source Localization," *IEEE Signal Processing Letters*, Vol. 22, No. 8, pp. 1098–1102, August 2015.
16. Leonardo O. Nunes, Wallace A. Martins, Markus V. S. Lima, Luiz W. P. Biscainho, Maurício V. M. Costa, Felipe M. Conçalves, Amir Said, and **Bowon Lee**, "A Steered-Response Power Algorithm Employing Hierarchical Search for Acoustic Source Localization Using Microphone Arrays," *IEEE Transactions on Signal Processing*, Vol. 62, No. 19, pp. 5171–5183, October 2014.
17. Vicente P. Minotto, Claudio R. Jung, and **Bowon Lee**, "Simultaneous-Speaker Voice Activity Detection and Localization Using Mid-Fusion of SVM and HMMs," *IEEE Transactions on Multimedia*, Vol. 16, No. 4, pp. 1032–1044, June 2014.
18. Vicente P. Minotto, Claudio R. Jung, Luiz Gonzaga da Silveira Jr., and **Bowon Lee**, "GPU-based Approaches for Real-time Sound Source Localization using the SRP-PHAT Algorithm," *International Journal of High Performance Computing Applications*, Vol. 27, No. 3, pp. 291–306, August 2013.
19. Vicente P. Minotto, Carlos B. O. Lopes, Jacob Scharcanski, Claudio R. Jung, and **Bowon Lee**, "Audiovisual Voice Activity Detection Based on Microphone Arrays and Color Information," *IEEE Journal of Selected Topics in Signal Processing*, Vol. 7, No. 1, pp. 147–156, February 2013.
20. Leonardo O. Nunes, Flávio R. Ávila, Alan F. Tygel, Luiz W. P. Biscainho, **Bowon Lee**, Amir Said, and Ronald W. Schafer, "A Parametric Objective Quality Assessment Tool for Speech Signals Degraded by Acoustic Echo," *IEEE Transactions on Audio, Speech, and Language Processing*, Vol. 20, No. 8, pp. 2181–2190, October 2012.
21. Thiago de M. Prego, Amaro A. de Lima, and Sergio L. Netto, **Bowon Lee**, Amir Said, and Ronald W. Schafer, and Ton Kalker, "A Blind Algorithm for Reverberation-Time Estimation Using Subband Spectral Analysis of Speech Signals," *Journal of Acoustical Society of America*, Vol. 131, No. 4, pp. 2811–2816, April 2012.
22. Amaro A. de Lima, Thiago de M. Prego, Sergio L. Netto, **Bowon Lee**, Amir Said, Ronald W. Schafer, Ton Kalker, and Majid Fozunbal, "On the Quality-Assessment of Reverberated Speech," *Speech Communication*, Vol. 54, No. 3, pp. 393–401, March 2012.
23. Dante A. Blauth, Vicente P. Minotto, Claudio R. Jung, **Bowon Lee**, and Ton Kalker, "Voice Activity Detection and Speaker Localization using Audiovisual Cues," *Pattern Recognition Letters*, Vol. 33, No. 4, pp. 373–380, March 2012.
24. Leonardo de O. Nunes, Luiz W. P. Biscainho, **Bowon Lee**, Amir Said, Ton Kalker, Ronald W. Schafer, "Degradation Type Classifier for Full Band Speech Contaminated with Echo, Broadband Noise, and Reverberation," *IEEE Transactions on Audio, Speech, and Language Processing*, Vol. 19, No. 8, pp. 2516–2526, November 2011.

25. Bruno C. Bispo, Paulo A. A. Esquef, Luiz W. P. Biscainho, Amaro A. de Lima, Fabio P. Free-land, Rafael A. de Jesus, Amir Said, **Bowon Lee**, Ronald W. Schafer, and Ton Kalker, "EW-PESQ: A Quality Assessment Method for Speech Signals Sampled at 48 kHz," *Journal of Audio Engineering Society*, Vol. 58, No. 4, pp. 251–268, April 2010.

◇ *Peer-Reviewed Conference Papers*

26. Donghyeon Kim, Suyeon Yoon, Jiyoung Seo, Seunghoon Jeong, and **Bowon Lee**, "Speech-Balloon: A New Approach of Providing User Interface for Real-time Generation of Meeting Notes," in *Proc. 25th International Conference on Human-Computer Interaction (HCII 2023)*, Copenhagen, Denmark, July 23–28, 2023.
27. Oseok Ryu and **Bowon Lee**, "Style Transfer Using Optimal Transport Via Wasserstein Distance," in *Proc. International Conference on Image Processing (ICIP 2022)*, pp. 2681–2685, Bordeaux, France, October 16–19, 2022.
28. Donghyeon Kim and **Bowon Lee**, "Phase Vocoder For Time Stretch Based On Center Frequency Estimation," in *Proc. Annual Conference of the International Speech Communication Association (Interspeech 2022)*, pp. 4416–4420, Incheon, Korea, September 18–22, 2022.
29. Seunghyun Seo, Donghyun Kwak and **Bowon Lee**, "Integration of pre-trained networks with continuous token interface for end-to-end spoken language understanding," in *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP 2022)*, pp. 7152–7156, Singapore, Singapore, May 22–27, 2022.
30. Taein Kim, Taeyong Kim and **Bowon Lee**, "Causality: A Portable Protocol for Rapid Development of Applications for Social Interactions," in *Proc. 23th International Conference on Human-Computer Interaction (HCII 2021)*, Washington DC, USA, July 24–29, 2021.
31. Taeyong Kim and **Bowon Lee**, "Multi-Attention Multimodal Sentiment Analysis," in *Proc. ACM International Conference on Multimedia Retrieval (ICMR 2020)*, Dublin, Ireland, October 26–29, 2020.
32. Taeyong Kim, Sanghong Kim, Joonhee Choi, Youngsun Lee, and **Bowon Lee**, "Say and Find it: A Multimodal Wearable Interface for People with Visual Impairment," in *Proc. Adjunct Publication of the 32nd Annual ACM Symposium on User Interface Software and Technology (UIST 2019)*, New Orleans, Louisiana, October 20–23, 2019.
33. Taesik Gong, Hyunsung Cho, **Bowon Lee**, and Sung-Ju Lee, "Real-Time Object Identification with a Smartphone Knock (video)," in *Proc. 7th Annual International Conference on Mobile Systems, Applications, and Services (MobiSys 2019)*, Seoul, Korea, June 17–21, 2019.
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