SUWON SHON

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EDUCATION

B.S of Electrical Engineering   Mar. 2004 - Feb. 2010
Korea University, Seoul, South Korea

Integrated Ph. D Electrical Engineering   Mar. 2010 - Feb. 2017
Korea University, Seoul, South Korea, Advised by Dr. Hanseok Ko
"Compensating Resource Imbalance in Speech Signal Processing: Application to Speaker Recognition System"

EXPERIENCES

Postdoctoral Associate @ MIT, Computer Science and Artificial Intelligence Lab. (CSAIL)
Advised by Dr. James R. Glass   Jul. 2017 - Present
Research Associate @ Korea University Engineering School
Advised by Dr. Hanseok Ko   Mar. 2017 - Jun. 2017
Visiting Graduate Student @ UT Dallas, Center for Robust Speech Systems (CRSS)
Advised by Dr. John H.L. Hansen   Jan. 2016 - Feb. 2016
Mandatory Military Service @ Republic of Korea Army   Jul. 2006 - Jul. 2008

RESEARCH AND PROJECT

Multi-target Challenge Evaluation 2018 @ ICDM 2018   May 2018 - Oct. 2018
Organizing with Drs. Najim Dehak, Douglas Reynolds and James R. Glass   `http://mce.csail.mit.edu/`

Evaluation of Multi-target (blacklist) detection and identification task for speaker recognition system

Varieties and Dialects (VarDial) 2018 @ COLING 2018   Mar. 2018 - Jun. 2018
Organizing with Drs. Preslav Nakov, Ahmed Ali and James R. Glass   `http://alt.qcri.org/vardial2018/`

Arabic dialect identification challenge in broadcast news domain using acoustic and linguistic (text) inputs.

MIT CSAIL   Jul. 2017 - Present
Postdoctoral Associate in Spoken Language Systems (SLS) group
Topic: Interpretation of DNN speaker/language recognition system, Audio-visual multimodal speaker recognition

· PianAn Insurance Company - Speaker verification and blacklist (multi-target) detection
· Qatar Computing Research Institute - Arabic dialect identification and code-switching detection
· Advising Students - Gabrielle Rivera (Graduate), Miguel Del Rio (Undergraduate)

Evaluations and Challenges Participation

· NIST Speaker Recognition Evaluation (SRE) 2018   May. 2018 - Oct.2018
· Multi-Genre Challenge 2017 (MGB-3)   Apr. 2017 - Jul. 2017
· ASVspoof 2017: Automatic Speaker Verification Spoofing and Countermeasures   Jan. 2017 - Feb. 2017
· NIST Speaker Recognition Evaluation (SRE) 2016   Mar. 2016 - Oct. 2016
· NIST Language Recognition i-vector Machine Learning Challenge 2015   Apr. 2015 - Sep. 2015
· NIST Language Recognition Evaluation (LRE) 2015   Sep. 2015 - Nov. 2015

Korea University   Mar. 2010 - Feb. 2017
Graduate Student Researcher, Intelligent Signal Processing Laboratory

· Samsung Techwin - A speaker verification system for home surveillance camera   Sep. 2015 - Oct. 2016
· Samsung Electronics - A speaker recognition system for smart home appliance   Jan. 2013 - Mar. 2015
· Bell Lab. Seoul - An acoustic source localization for human-machine interface   Dec. 2010 - Nov. 2012
· Office of Naval Research (USA) - Hand signal interface for unmanned ground vehicles   Nov. 2009 - Oct.2010

RESEARCH PUBLICATIONS

Suwon Shon, Tae-Hyun Oh and James Galss, "Noise-tolerant Audio-Visual Online Person Verification using an Attention-based Neural Network Fusion", *IEEE International Conference on Acoustics, Speechand Signal Processing (ICASSP)*, Brighton, UK, May 2019

Suwon Shon, Ahmed Ali and James Glass, "Domain Attentive Fusion for End-to-end Dialect Identification with Unknown Target Domain", *IEEE International Conference on Acoustics, Speechand Signal Processing (ICASSP)*, Brighton, UK, May 2019

Seongkyu Mun and **Suwon Shon**, "Domain Mismatch Robust Acoustic Scene Classification using Channel Information Conversion", *IEEE International Conference on Acoustics, Speechand Signal Processing (ICASSP)*, Brighton, UK, May 2019

Suwon Shon, Wei-Ning Hsu and James Glass, "Unsupervised Representation Learning of Speech for Dialect Identification", *IEEE Workshop on Spoken Language Technology (SLT)*, pp 105-111, Athens, Greece, Dec. 2018

Suwon Shon, Hao Tang and James Glass, "Frame-level speaker embeddings for text-independent speaker recognition and analysis of end-to-end model", *IEEE Workshop on Spoken Language Technology (SLT)*, pp 1007-1013, Athens, Greece, Dec. 2018

Marcos Zampieri, Shervin Malmasi, Preslav Nakov, Ahmed Ali, **Suwon Shon**, James Glass and others, "Language Identification and Morphosyntactic Tagging: The Second VarDial Evaluation Campaign", *Proceedings of the Fifth Workshop on NLP for Similar Languages, Varieties and Dialects*, pp 1-17, Santa Fe, USA, Aug. 2018

Suwon Shon, Ahmed Ali and James Glass, "Convolutional Neural Networks and Language Embeddings for End-to-End Dialect Recognition", *Speaker Odyssey 2018, The Speaker and Language Recognition Workshop*, pp 98-104, Les Sables d'Olonne, France, Jun. 2018

Maryam Najafian, Sameer Khurana, **Suwon Shon**, Ahmed Ali and James Glass, "Exploiting Convolutional Neural Network for Phonotactic based Dialect Identification", *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pp.5174-5178, Calgary, Canada, April 2018

Suwon Shon, Ahmed Ali and James Glass, "MIT-QCRI Arabic Dialect Identification System for the 2017 Multi-Genre Broadcast Challenge", *IEEE Automatic Speech Recognition and Understanding (ASRU) Workshop*, pp.374-380, Okinawa, Japan, December 2017

Suwon Shon, Seongkyu Mun, Wooil Kim and Hanseok Ko, "Autoencoder based Domain Adaptation for Speaker Recognition under Insufficient Channel Information", *Interspeech*, pp.1014-1018, Stockholm, Sweden, Aug. 2017

Suwon Shon , Seongkyu Mun and Hanseok Ko, "Recursive Whitening Transformation for Speaker Recognition on Language Mismatched Condition", *Interspeech*, pp.2869-2873, Stockholm, Sweden, August 2017

Seongkyu Mun, **Suwon Shon**, Wooil Kim, David Han and Hanseok Ko, "Deep Neural Network based Learning and Transferring Mid-level Auto Features for Acoustic Scene Classification", *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pp.796-800, New Orleans, USA, March 2017

Suwon Shon and Hanseok Ko, "KU-ISPL Speaker Recognition Systems under Language Mismatch Condition for NIST 2016 Speaker Recognition Evaluation", *NIST SRE16 workshop*, San Diego, USA, December 2016

Seongkyu Mun, **Suwon Shon**, Wooil Kim and Hanseok Ko, "Deep Neural Network Bottleneck Features for Acoustic Event Recognition", *Interspeech*, pp.2954-2957, San Francisco, CA, USA, September 2016

Suwon Shon, Seongkyu Mun, David Han and Hanseok Ko, "A non-negative matrix factorization-based subband decomposition for acoustic source localization", *Electronics Letters*, Vol.51, No.22, pp.1723-1724, 2015

Suwon Shon, David K. Han, and Hanseok Ko, "Abnormal Acoustic Event Localization based on Selective Frequency Bin in High Noise Environment for Audio Surveillance", *IEEE International Conference on Advanced Video and Signal-based Surveillance(AVSS)*, pp.87-92 , Krakow, Poland, August 2013.

Suwon Shon, David K. Han, Jounghoon Beh and Hanseok Ko, "Full Azimuth Multiple Sound Source Localization with 3-channel Microphone Array", *IEICE Trans. on Fundamentals*, Vol. E95-A, No. 4 pp. 745-750, April 2012

Suwon Shon, Eric Kim, Jongsung Yoon and Hanseok Ko, "Sudden Noise Source Localization System for intel-

ligent Automobile application with Acoustic Sensors", *IEEE International Conference on Consumer Electronics*, pp.237-238, Las Vegas, NV, USA, January 2012

Suwon Shon, Jounghoon Beh, Cheoljong Yang, David K. Han and Hanseok Ko , "Motion Primitives for Designing Flexible Gesture Set in Human-Robot Interface", *International Conference on Control, Automation and Systems*, pp.1501-1504, Il-san, South Korea, October 2011

ACEDEMIC SERVICES

Teaching Assistance	"Statistical Signal Processing" and "Signals and Systems"
Reviewer	ISCA Speech Communications, Interspeech, IEEE ICASSP, IEEE Trans. on ASLP, IET Electronics Letter, IET Science, Measurement & Technology