

Bongjun Kim

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EDUCATION	Ph.D. candidate in Computer Science 2013 – present Interactive Audio Lab (Advisor: Bryan Pardo) Northwestern University, Evanston, IL, USA
	M.S. in Culture Technology 2012 Audio and Interactive Media Lab (Advisor: Woon Seung Yeo) Korea Advanced Institute of Science and Technology (KAIST), Korea
	M.S. in Industrial Engineering 2009 Industrial Informatics Lab (Advisor: Kiejin Park) Ajou University, Suwon, Korea
	B.S. in Industrial and Information System Engineering 2007 Ajou University, Suwon, Korea (Study Abroad, Lulea University of Technology, Lulea, Sweden) Aug 2006 – Dec 2006
RESEARCH INTEREST	Machine Learning - interactive machine learning, deep learning, active learning Audio Signal Processing - sound event detection, audio/music information retrieval Human Computer Interaction - a human-in-the-loop interface, digital musical instrument
RESEARCH EXPERIENCE	Research Assistant Northwestern University, IL, USA Sep 2013 – present <ul style="list-style-type: none">▪ Audio search by vocal imitation using deep learning (Dec 2016 – present)▪ Interactive sound event detection and annotation (Sep 2015 – present)▪ Speeding learning of personalized audio equalization (Sep 2013 – Jun 2015) Research Intern Bosch, CA, USA Jun 2018 – Aug 2018 <ul style="list-style-type: none">▪ Weakly labeled audio event classification Research Intern Gracenote, CA, USA Jun 2017 – Sep 2017 <ul style="list-style-type: none">▪ Audio compression identification Research Assistant KAIST, Korea Sep 2010 – Aug 2012 <ul style="list-style-type: none">▪ Mobile media as a musical instrument
TEACHING EXPERIENCE	Teaching Assistant Spring, 2019 CS-349 Machine Learning Northwestern University, IL, USA
	Teaching Assistant Winter, 2019 CS-352 Machine Perception of Music and Audio Northwestern University, IL, USA
	Teaching Assistant Fall quarters, 2014-2017 EECS-349 Machine Learning Northwestern University, IL, USA
	Teaching Assistant Fall, 2012 GCT-633 Audio and Multimedia Programming KAIST, Korea

PUBLICATIONS

- Bongjun Kim and Bryan Pardo, "Improving Content-based Audio Retrieval by Vocal Imitation Feedback," IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), 2019.
- Bongjun Kim, Madhav Ghei, Bryan Pardo, and Zhiyao Duan, "Vocal Imitation Set: a dataset of vocally imitated sound events using the AudioSet ontology," the Detection and Classification of Acoustic Scenes and Events Workshop (DCASE), Surrey, UK, Nov. 2018.
- Bongjun Kim and Zafar Rafii, "Lossy Audio Compression Identification," European Signal Processing Conference (EUSIPCO), Rome, Italy, Sept. 2018.
- Bongjun Kim and Bryan Pardo, "A Human-in-the-loop System for Sound Event Detection and Annotation," ACM Transaction on Interactive Intelligent System (TiiS), Vol. 8, Issue 2, Article 13, June 2018.
- Bongjun Kim, "Leveraging User Input and Feedback for Interactive Sound Event Detection and Annotation," Student Consortium, ACM International Conference on Intelligent User Interfaces (IUI) 2018.
- Bongjun Kim and Bryan Pardo, "I-SED: an Interactive Sound Event Detector," ACM International Conference on Intelligent User Interfaces (IUI), Limassol, Cyprus, Mar. 2017
- Bongjun Kim and Bryan Pardo, "Interface Design for Interactive Sound Event Detection," Workshop on Awareness Interface and Interaction (AWARE) at the ACM International Conference on Intelligent User Interface (IUI), Limassol, Cyprus, Mar. 2017
- Bongjun Kim and Bryan Pardo, "Speeding Learning of Personalized Audio Equalization," International Conference on Machine Learning and Applications (ICMLA), Detroit, USA, Dec. 2014
- Bongjun Kim and Bryan Pardo, "Adapting Collaborative Filtering to Personalized Audio Production," AAAI Conference on Human Computation and Crowdsourcing (HCOMP), Pittsburgh, USA, Oct. 2014
- Bongjun Kim and Woon Seung Yeo, "Probabilistic Prediction of Rhythmic Characteristics in Markov Chain-based Melodic Sequences," International Computer Music Conference (ICMC) Aug. 2013
- Seunghun Kim, Bongjun Kim, and Woon Seung Yeo, "IAMHear: A Tabletop Interface with Smart Mobile Devices using Acoustic Location," Conference on Human Factors in Computing Systems (CHI) works in progress, Apr. 2013
- Bongjun Kim and Woon Seung Yeo, "Interactive Mobile Music Performance with Digital Compass," In Proceedings of the International Conference on New Interfaces for Musical Expression (NIME), Ann Arbor, USA, 2012.
- Minkoo Kang, Kiejn Park, and Bongjun Kim, "A Scheduling Algorithm for Reducing FlexRay Message Response Time using Empty Minislots in Dynamic Segment," Digest of Technical Papers, International Conference on Consumer Electronics (ICCE), USA, 2010.
- Minkoo Kang, Kiejn Park, and Bongjun Kim, "A Static Message Scheduling Algorithm for Reducing FlexRay Network Utilization," IEEE International Symposium on Industrial Electronics, pp. 1287-1291, Seoul, Korea, 2009.
- Bongjun Kim and Kiejn Park, "Probabilistic Delay Model of Dynamic Message Frame in FlexRay Protocol," IEEE Transaction on Consumer Electronics, Vol. 55, Issue 1, pp. 77-82, Feb. 2009.
- Bumjoo Park, Kiejn Park, and Bongjun Kim, "A Performance Isolation Mechanism Based on Fuzzy Technique for Web Server Loading Balancing," The Institute of Electronics, Information and Communication Engineers Transactions on Communications, Vol.E92-B, No.4, pp. 1086-1093, Apr. 2009.
- Bongjun Kim and Kiejn Park, "Analysis of Frame Delay Probability in the FlexRay Dynamic Segment," The 6th IEEE International Conference on Industrial Informatics, pp. 1519-1522, Daejeon, Korea, 2008.
- Minkoo Kang, Kiejn Park, and Bongjun Kim, "PDO Packing Mechanism for Minimizing CANopen Network Utilization," The 34th Annual Conference of the IEEE Industrial Electronics Society, pp.1516-1519, Nov. 2008.

- Minkoo Kang, Kiejin Park, and Bongjun Kim, “Determining the Size of a Static Segment and Analyzing the Utilization of In-vehicle FlexRay Network,” Third International Conference on Convergence and Hybrid Information Technology, Vol. 2, pp.50-53, Nov. 2008.

ACADEMIC AWARDS	<p>The SIGCHI Student Travel Grant 2019 ACM International Conference on Intelligent User Interfaces (IUI) 2019</p> <p>The NSF Travel Grant 2018 ACM International Conference on Intelligent User Interfaces (IUI) 2018</p> <p>The NSF Travel Grant 2017 ACM International Conference on Intelligent User Interfaces (IUI) 2017</p> <p>Segal Design Cluster Fellowship 2015 – 2016 Northwestern University, IL, USA</p> <p>Outstanding Teaching Assistant Award 2012 GCT633 Audio and Multimedia Programming Korea Advanced Institute of Science and Technology (KAIST), Korea</p> <p>Best Presentation and Paper Award 2008 IEEE International Conference on Industrial Informatics</p>
TALKS	<p>“A Human-in-the-loop System for Sound Event Detection and Annotation” Mar 2019 ACM International Conference on Intelligent User Interfaces (IUI 2019), LA, USA</p> <p>“Interactive Intelligent user interfaces for Music and Audio” Mar 2018 HCI@KAIST Seminars, KAIST, Korea</p> <p>“Interactive Intelligent user interfaces for Music and Audio” Mar 2018 Music and Audio Computing Lab., Culture Technology, KAIST, Korea</p> <p>“Interactive Intelligent user interfaces for Music and Audio” Mar 2018 Ewha Arts & Science Institute, Ewha Womans University, Korea.</p> <p>“A Human-in-the-loop System for Sound Event Detection and Annotation” Mar 2018 Haii:Human-AI-Interaction, inc., Yonsei University, Korea</p> <p>“I-SED: an Interactive Sound Event Detector” Jun 2017 Midwest Music and Audio Day, Evanston, IL, USA</p> <p>“I-SED: an Interactive Sound Event Detector” Feb 2017 Simons Institute Workshop on Interactive Learning, Berkeley, CA, USA</p> <p>“I-SED: an Interactive Sound Event Detector” Feb 2017 Gracernote, Emeryville, CA, USA</p>
PROFESSIONAL EXPERIENCE	<p>Research Engineer Jul 2009 – Jul 2010 Research process innovation and product lifecycle management Doosan Infracore Co. Ltd, Korea</p>
EXTERNAL SERVICES	<p>Journal Reviewer 2018 IEEE Signal Processing Magazine</p>

Conference Reviewer

ACM User Interface Software and Technology Symposium (UIST)	2019
IEEE International Conference on Acoustics, Speech, and Signal Processing	2015-16, 2018-19
International Conference on New Interfaces for Musical Expression	2013 – 2019
ACM Multimedia Conference	2016
IEEE Workshop on Applications of Signal Processing to Audio and Acoustics	2015

Student Volunteer for Conferences

ACM International Conference on Intelligent User Interfaces (IUI), Cyprus	2017
International Conference on Design Computing and Cognition, USA	2016

Conference Staff: Administration

International Conference on New Interfaces for Musical Expression (NIME), Korea	2013
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**PERFORMANCE
AND EXHIBITION**

Mobile music performance: Where Are You Standing?	May 2012
International Conference on New Interfaces for Musical Expression (NIME), Ann Arbor, USA	
Interactive sound art installation: Turning Into Sound	Jan 2012
Daejoen Children Art Gallery, Daejeon, Korea	
Mobile music performance: ADC Project- Don't Imagine	Aug 2011
Arco Art Theater, Seoul, Korea	
Mobile music performance: Where Are You Standing?	Jun 2011
Hyundai Card / Capital Inc., Seoul, Korea	

**PROGRAMMING
AND SOFTWARE
SKILLS**

- Python, Matlab, Javascript, Processing
- Max/MSP, Pure Data
- Music production tools: Logic Pro