

# Bongjun Kim

2133 Sheridan Road, Ford 3.202, Evanston, Illinois, USA  
bongjun@u.northwestern.edu • <http://www.bongjunkim.com>

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

**PUBLICATIONS**

- 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 Alogorithm 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, Kiejn 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.

<b>ACADEMIC AWARDS</b>	<b>The NSF Travel Grant</b>	2018
	ACM International Conference on Intelligent User Interfaces (IUI) 2018	
	<b>The NSF Travel Grant</b>	2017
	ACM International Conference on Intelligent User Interfaces (IUI) 2017	
	<b>Segal Design Cluster Fellowship</b>	2015 – 2016
	Northwestern University, IL, USA	
	<b>Outstanding Teaching Assistant Award</b>	2012
	GCT633 Audio and Multimedia Programming	
	Korea Advanced Institute of Science and Technology (KAIST), Korea	
	<b>Best Presentation and Paper Award</b>	2008
	IEEE International Conference on Industrial Informatics	
<b>TALKS</b>	“Interactive Intelligent user interfaces for Music and Audio”	Mar 2018
	HCI@KAIST Seminars, KAIST, Korea	
	“Interactive Intelligent user interfaces for Music and Audio”	Mar 2018
	Music and Audio Computing Lab., Culture Technology, KAIST, Korea	
	“Interactive Intelligent user interfaces for Music and Audio”	Mar 2018
	Ewha Arts & Science Institute, Ewha Womans University, Korea.	
	“A Human-in-the-loop System for Sound Event Detection and Annotation”	Mar 2018
	Haii:Human-AI-Interaction, inc., Yonsei University, Korea	
“I-SED: an Interactive Sound Event Detector”	Jun 2017	
Midwest Music and Audio Day, Evanston, IL, USA		
“I-SED: an Interactive Sound Event Detector”	Feb 2017	
Simons Institute Workshop on Interactive Learning, Berkeley, CA, USA		
“I-SED: an Interactive Sound Event Detector”	Feb 2017	
Gracenote, Emeryville, CA, USA		
<b>PROFESSIONAL EXPERIENCE</b>	<b>Research Engineer</b>	Jul 2009 – Jul 2010
	Research process innovation and product lifecycle management Doosan Infracore Co. Ltd, Korea	
<b>PERFORMANCE AND EXHIBITION</b>	<b>Mobile music performance: Where Are You Standing?</b>	May 2012
	International Conference on New Interfaces for Musical Expression (NIME), Ann Arbor, USA	
	<b>Interactive sound art installation: Turning Into Sound</b>	Jan 2012
	Daejoen Children Art Gallery, Daejeon, Korea	
	<b>Mobile music performance: ADC Project- Don’t Imagine</b>	Aug 2011
Arco Art Theater, Seoul, Korea		
<b>Mobile music performance: Where Are You Standing?</b>	Jun 2011	
Hyundai Card / Capital Inc., Seoul, Korea		
<b>EXTERNAL SERVICES</b>	<b>Journal Reviewer</b>	2018
	IEEE Signal Processing Magazine	

**Conference Reviewer**

ACM Multimedia Conference	2016
IEEE International Conference on Acoustics, Speech, and Signal Processing	2015 – 2016
International Conference on New Interfaces for Musical Expression	2013 – 2017
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
---	------

**PROGRAMMING  
AND SOFTWARE  
SKILLS**

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