Yongjae Yoo (유용재), Ph. D.

Updated: Apr 28th, 2023

Contact Information

Current Position	Assistant Professor, Department of Artificial Intelligence, Hanyang University-ERICA
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E-mail	yongjaeyoo@hanyang.ac.kr
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Google Scholar	https://scholar.google.com/citations?user=2WqBoVQAAAAJ&hl=en
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Research Interests

- Multisensory Human-Computer Interaction
- AI for Mixed Reality
- Affective Haptics and Computing,
- Human Haptic Perception

Education

2011. 3. – 2019. 2   **Doctor of Philosophy (Ph. D),** Computer Science and Engineering, POSTECH
Advisor: Prof. Seungmoon Choi
Thesis Title: Perceptual and Affective Characteristics of Complex Tactile Stimuli
* (Best Ph.D. Thesis award, Department of Computer Science and Engineering, POSTECH)

2007. 3. – 2011. 2   **Bachelor of Science,** Computer Science and Engineering, POSTECH
Advisor: Prof. Seungmoon Choi
Final year project: Tactile Icon Design Using Musical Dynamics

Professional Positions

2022. 9 – Present   **Assistant Professor**
Department of Artificial Intelligence,
Hanyang University ERICA

2022. 9 – Present   **Director**
Multimodal Intelligence and Interaction Laboratory,
Department of Artificial Intelligence, Hanyang University ERICA

2023. 3 – Present	**Chair**
	Major of Industrial Artificial Intelligence
	College of Computing, Hanyang University ERICA
2020. 3 – 2022.7	**Postdoctoral Researcher**
	Shared Reality Laboratory, Department of Electrical and Computer Engineering, McGill University
2019. 3 – 2020.2	**Postdoctoral Research Associate**
	Haptics and Virtual Reality Laboratory (currently Interaction Laboratory)
	Department of Computer Science and Engineering, POSTECH
2011. 3. – 2019. 2	**Research Assistant**
	Haptics and Virtual Reality Laboratory (currently Interaction Laboratory)
	Department of Computer Science and Engineering, POSTECH
2012. 3. – 2012. 6, 2013. 3. – 2013. 6.	**Teaching Assistant** Department of Computer Science and Engineering, POSTECH
2010. 3 – 2010. 12.	**Undergraduate Research Assistant**
	Haptics and Virtual Reality Laboratory (currently Interaction Laboratory)
	Department of Computer Science and Engineering, POSTECH

Awards and Honors

2022. 5.	**Honorable Mention**
	The Sound of Hallucinations: Toward a more convincing emulation of internalized voices
	ACM CHI Conference on Human Factors in Computing Systems 2022, New Orleans, LA
2021. 9. – 2022. 8	**Postdoctoral Fellowship**
	Modelling and Learning of Haptic Perception Data for Affective Human Computer Interaction
	National Research Foundation of Korea. Funding: 42.8M KRW (approx. 38K USD)
2019. 2.	**Best Ph.D. Thesis Award**
	Perceptual and Affective Characteristics of Complex Tactile Stimuli
	Department of Computer Science and Engineering, POSTECH, Korea.
2017. 6.	**Best Poster Paper Award**
	A Longitudinal Study of Haptic Pitch Correction Guidance for String Instrument Players
	IEEE World Haptics Conference 2017, Munich, Germany.
2016. 11.	**Best Presentation Award**
	Emotional Responses of Vibrotactile-Thermal Stimuli
	The 9th Korea Haptics Community Workshop, Seoul, Korea.
2016. 8.	**Best Presentation Paper Award**
	Drag and Roll: Gesture Interaction for Fine-tuning Task on Touchscreen
	2016 Korea Computer Congress (KCC 2016), Jeju islands, Korea.
2011. 3. – 2016. 2.	**Global Ph. D. Fellowship**
	Tactile Rendering of Sentimental Information
	National Research Foundation of Korea. Funding: 150 M KRW (approx. 133K USD)
2015. 6.	**Finalist (Top 9 teams)**
	Texecure- A Secure Input Method Using Textures
	Student Innovation Challenge, IEEE World Haptics Conference 2015, Chicago, IL.
2014. 6.	**Best Paper Award**
	An Initial Study on Congruence between Visual and Haptic Icons Based on Emotional Responses
	2014 Korea Computer Congress (KCC 2014), Busan, Korea
2014. 2.	**Best TA Award**
	2013 Spring, CSED273 Digital System Design and Experiment
	POSTECH, Korea
2011. 3.	**Best Paper Award**
	Tactile Stimulus Design by Rendering of Classical Music
	2010 POSTECH Undergraduate Research Program (URP), POSTECH, Korea
2007.3. – 2011. 2.	**Full Scholarship**
	POSTECH, Korea.

Academic Services

2023	**Program Chair,** 1st Korea Haptics Society Conference, 2023
	Organization Committee Member, Korea Haptics Society PI Workshop 2023
2021	**Travel Information Chair**, ACM ICMI 2021
2017 – Present	**Reviewer**
	International Journal of Human-Computer Studies (2022)
	IEEE Transactions on Haptics (ToH) (2017-2022)
	IEEE WHC/HS (2017-2023)
	IEEE VR (2021)
	ACM VRST (2021)
	ACM CHI (2018-2023)
	ACM ICMI (2018-2021)
	ACM IMWUT (2018)
	ACM DIS (2023)
	ACM EICS (2023)
	ACM MobileHCI (2018, 2020, 2022)
	ACM ISWC (2019)
	ACM TEI (2019, 2021)
	ACM CHI PLAY (2021)
	NIME (2020-2021)
	IFIP INTERACT (2021)
	Eurohaptics (2018-2022)
	Asiahaptics (2022)
	Springer Virtual Reality (2018, 2020)

Research Projects, Grants, and Contracts

Projects at Hanyang University *(as a PI)*

2023. 5 – 2026. 2   **Development of visual and tactile interaction authoring technology based on user context for realistic cultural content experience**
Culture Technology Development Program, Korea Creative Contents Agency
PI: Woo Tack (Kyung Hee University), 4 co-PIs including Yongjae Yoo.
Funding: 400M KRW *(of 3400M KRW total)* $\simeq$ 320K USD

2023. 3 – 2027. 2   **An AI Algorithm and Human-Computer Interaction System for Sensorimotor Skills Modeling, Reconstruction, and Education**
Outstanding Early-career Research Program, National Research Foundation of Korea
Funding: 547M KRW $\simeq$ 440K USD

2023. 3 – 2023. 12   **Context-based Information Extraction and Haptization for The Visually Impaired**
Hanyang University ERICA Software Oriented University Program - Collaborative Industrial R&D Project, Ministry of Science and ICT, government of Korea.
Industrial Partner: Dot Incorporation, Korea.
Funding: 40M KRW $\simeq$ 32K USD

2023. 3 – 2023. 12   **AI-based Multimodal User Interface for Intuitive Control of Rail Robots**
Hanyang University ERICA Software Oriented University Program - Collaborative Industrial R&D Project, Ministry of Science and ICT, government of Korea.
Industrial Partner: MiraeCity Global, Korea.
Funding: 40M KRW $\simeq$ 32K USD

2022. 9 – 2024. 2   **Context-driven Haptic Rendering on Wearable Devices**
New Professor Program, Hanyang University ERICA.
Funding: 40M KRW $\simeq$ 32K USD

Participated Projects at McGill University *(Supervised by Prof. Jeremy R. Cooperstock)*

2021. 9 – 2022. 7   **Modeling and Learning of Haptic Perception Data for Affective Human-Computer Interaction**
Postdoctoral Fellowship Program, National Research Foundation of Korea,
Funded Individual Project: 45M KRW $\simeq$ 37K USD

2021. 4 – 2022. 7   **IMAGE- Making internet graphics accessible through rich audio and touch**
Assistive Technology Program, Innovation Science Economic Development Canada, with Gateway Navigation CCC Ltd, the Canadian Council of the Blind.
Role: Haptics Team Lead

2020. 7 – 2022. 7   **Becoming-Adding Haptics in VR soundscape environments**
with Opera Hack project, UC San Diego, USA
Role: Haptics Implementation Advisor

2020. 5 – 2021. 7	**Multidimensional Information Delivery via A Single Haptic Actuator**
	National Science and Engineering Research Council (NSERC) funded project, Canada
	Role: Postdoc Researcher and Haptics Team Lead
2020. 3 – 2022. 7	**Psychosis-VR Simulation and Synthesis of Multimodal Hallucinations with Applications to Schizophrenia Treatment**
	with iMD research Inc and AI Mental Health Precision, MEDTEQ+ Quebec, Canada.
	Role: Postdoc Researcher and Student Mentor
2020. 3 – 2022. 7	**Augmenting Movie Watching Experience via Auto-generated Haptic Effects**
	with InterDigital Corporation, USA
	Role: Postdoc Researcher and Student Mentor

Projects at POSTECH *(Supervised by Prof. Seungmoon Choi)*

2019. 3 – 2020. 2	**Developing a Large Set of Affective Vibrotactile Icons**
	Individual project as a main student RA
2018. 4 – 2019. 2	**Emotional Augmentation using Complex Tactile Stimuli**
	Individual project as a main student RA
2016. 8 – 2018.12	**Emotional Responses of Combined Vibrotactile-Thermal Stimuli**
	Individual project as a main student RA
2017. 4 – 2018. 3	**Haptics Technology for Improving Affective Quality of Vehicles**
	with Hyundai Motor Group, Korea
	Roles: Team Leader, Haptic Seat Implementation
2016. 8 – 2017. 7	**TouchPhoto: An Integrated System for Picture-taking and Understanding of Visually Impaired Users**
	X Project from *National Research Foundation of Korea*
	Roles: Team Leader, Hardware Implementation, Perception Study
2011. 3 – 2016. 2	**Tactile Rendering of Sentimental Information**
	Global Ph. D. Fellowship from National Research Foundation of Korea.
	Funded Individual Project: 150M KRW $\simeq$ *125K USD*
2015. 2 – 2015. 6	**Texecure - A Secure Input Method using Textures**
	Student Innovation Challenge (SIC) in World Haptics Conference 2015
	Roles: Team Leader, Perception Experiments
2014. 2 – 2014. 7	**Development of Touch Music Haptic Solution**
	with Samsung Electronics C-Lab, Korea
	Role: Haptic Rendering Algorithm Development
2012. 6 – 2013. 11	**Defining and Validating Haptic Elements**
	with Samsung Electronics, Korea
	Role: Perception Study, Authoring Tool Implementation

2012. 2 – 2013. 6	**HapTune-A Haptic Feedback System for Pitch Learning of String Players** Individual project as a main student RA
2011. 5 – 2011. 11	**Developing Haptic Feedbacks for Android UI** *with LG Electronics, Korea* Role: Widget development/implementation
2010. 9 – 2010. 12	**Tactile Icon Design using Musical Dynamics** *Undergraduate Final Year Project,* POSTECH, Korea Individual project as a main student RA
2010. 7 – 2010. 11	**Tactile Stimulus Design by Rendering of Classical Music** *Undergraduate Student Research Program (URP)*, POSTECH, Korea Individual project as a main student RA

Publications

International Journal Articles

1. **Yongjae Yoo**, Inwook Hwang and Seungmoon Choi, "Perceived Intensity Model of Dual-Frequency Superimposed Vibration," *IEEE Transactions on Haptics*, preprint, pp 1-11, 2022. (SCI-E, IF= 2.487).

2. Won-Hyeong Park, Eun-Jae Shin, **Yongjae Yoo**, Seungmoon Choi, and Sang-Youn Kim, "Soft Vibrotactile Actuator with Knitted PVC Gel Fabric," *IEEE Transactions on Industrial Electronics,* Vol. 67, No. 1, pp.677-685, 2020. (SCI, IF=8.236).

3. **Yongjae Yoo**, Inwook Hwang and Seungmoon Choi, "Consonances of Vibrotactile Chords," *IEEE Transactions on Haptics*, Vol. 7, No. 1, pp 3-13, 2014. (SCI-E, IF= 2.487).

Peer-Reviewed International Conference Proceedings

1. Shahrokh Yadegari, John Burnett, Eito Murakami, Louis Pisha, Francesca Talenti, Juliette Regimbal, and **Yongjae Yoo**, "Becoming: An Interactive Musical Journey in VR," *In Extended Abstract of ACM SIGGRAPH 2022* (Immersive Pavilion; accepted).

2. **Yongjae Yoo,** Jongho Lim, Hanseul Cho, and Seungmoon Choi, "Perception of Electrostatic Friction Stimuli in Free Surface Exploration," *In Proceedings of IEEE Haptics Symposium (HS) 2022*, pp. 1-6.

3. Hyejin Lee, Ruixi Jiang, **Yongjae Yoo**, Max Henry, and Jeremy Cooperstock, "The Sound of Hallucinations: Toward a more convincing emulation of internalized voices," *In Proceedings of ACM CHI Conference on Human Factors in Computing Systems (CHI '22),* 11 pages. (Accepted, oral presentation, Honorable Mention)

4. Yaxuan Li*, **Yongjae Yoo*,** Antoine Weill-duflos, and Jeremy Cooperstock, "Towards Context-aware Multimodal Automatic Haptic Effect Generation for Home Theater Environments," in *Proceedings of ACM Virtual Reality Software and Technology (VRST) 2021,* Article No. 13, 11 pages.
   (* Equal contribution (co-1st), oral presentation; acceptance rate: 26.2%)

5. **Yongjae Yoo**, Juliette Regimbal, and Jeremy R. Cooperstock, "Identification and Information Transfer of Multidimensional Tactons Presented by a Single Vibrotactile Actuator," in *Proceedings of IEEE World Haptics Conference (WHC) 2021,* pp.7-12

6. Marc Demers, Pascal Fortin, Antoine Weill–Duflos, **Yongjae Yoo,** and Jeremy Cooperstock, "Active Sampling for Efficient Subjective Evaluation of Tactons at Scale," in *Proceedings of IEEE World Haptics Conference (WHC) 2021*, pp 1-6.

7. Beomsu Lim, Junkyeong Choi, **Yongjae Yoo**, and Seungmoon Choi, "Perceived Magnitude Function of Friction Rendered by the Dahl Model" in *Proceedings of IEEE World Haptics Conference (WHC) 2021,* pp 13-18.

8. Yaxuan Li, **Yongjae Yoo,** Antoine Weill-Duflos, and Jeremy R. Cooperstock, "Context-aware Automatic Haptic Effect Generation Algorithm for Improved Content Viewing Experience," in *Proceedings of IEEE World Haptics Conference (WHC) 2021 Work-in-progress*, pp. 339.

9. Nathan J. A. Pollet, Emanuel Uzan, Patricia Batista Ruivo, Tal Abravanel, Aishwari Talhan, **Yongjae**

Yoo, and Jeremy R. Cooperstock, "Multimodal Haptic Armrest for Immersive 4D Experiences," in *Proceedings of IEEE World Haptics Conference (WHC) 2021 Work-in-progress,* pp.1144.

10. Beomsu Lim, Junkyeong Choi, **Yongjae Yoo**, and Seungmoon Choi, "Perceived Magnitude Function of Friction Rendered by the Dahl Model," in *Proceedings of IEEE Haptics Symposium 2020 Work-in-Progress*, pp. 584-585.

11. Jongho Lim, **Yongjae Yoo**, Hanseul Cho, and Seungmoon Choi, "TouchPhoto: Enabling Independent Picture Taking and Understanding for Visually-Impaired Users," in *Proceedings of the ACM International Conference on Multimodal Interaction (ICMI)* 2019, pp. 124-134. (Oral presentation; acceptance rate: 22.4%).

12. Jongho Lim, **Yongjae Yoo**, and Seungmoon Choi, "Guidance-based Two-Dimensional Haptic Contour Rendering for Accessible Photography," in *Proceedings of the IEEE World Haptics Conference (WHC) 2019,* pp. 401-406.

13. **Yongjae Yoo**, Jongho Lim, Hanseul Cho, and Seungmoon Choi, "TouchPhoto: Enabling Independent Photo-Related Activities for Visually-Impaired Users," in *Lecture Notes on Electrical Engineering (Asiahaptics 2018), vol. 535,* pp. 278-283, 2018.

14. Won-Hyeong Park, **Yongjae Yoo**, Gobong Choi, Seungmoon Choi, and Sang-Youn Kim, "A Soft Vibrotactile Actuator with Knitted PVC Gel Fabric," in *Lecture Notes in Computer Science (Eurohaptics 2018), Vol. 10894*, pp. 148-156, 2018.

15. **Yongjae Yoo**, Hojin Lee, Hyejin Choi, and Seungmoon Choi, "Emotional Responses of Vibrotactile-Thermal Stimuli: Effects of Constant-Temperature Thermal Stimuli," in *Proceedings of Seventh International Conference on Affective Computing and Intelligent Interaction (ACII)*, pp. 273-278, 2017. (Oral presentation; acceptance rate: 27%).

16. **Yongjae Yoo** and Seungmoon Choi, "A Longitudinal Study of Haptic Pitch Correction Guidance for String Instrument Players" in *Proceedings of the World Haptics Conference (WHC) 2017*, pp. 177-182, 2017. **(Recipient of the best poster award / Nominated to the best poster presentation award).**

17. **Yongjae Yoo**, Jongho Lim, Hanseul Cho, and Seungmoon Choi, "TouchPhoto: Enabling Independent Photo-Related Activities for Visually-Impaired Users," *Extended Abstracts of the First Workshop of Haptics for Accessibility* (Satellite Workshop of IEEE WHC 2017), 2017.

18. **Yongjae Yoo**, Jaebong Lee, Jongman Seo, Eunhwa Lee, Jeongseok Lee, Yudong Bae, Daekwang Jung, and Seungmoon Choi, "Large-Scale Survey on Adjectival Representation of Vibrotactile Stimuli"*, in Proceedings of IEEE Haptics Symposium 2016 Work-in-Progress*, pp. 393-395, 2016.

19. **Yongjae Yoo**, Taekbeom Yoo, Jihyun Kong, and Seungmoon Choi, "Emotional Responses of Tactile Icons: Effects of Amplitude, Frequency, Duration, and Envelope," in *Proceedings of the IEEE World Haptics Conference (WHC) 2015,* pp.235-240, 2015.

20. Won-Hyeong Park, Tae-Heon Yang, **Yongjae Yoo**, Seungmoon Choi, and Sang-Youn Kim, "Flexible and Bendable Vibrotactile Actuator Using Electro-conductive Polyurethane," In *Proceedings of the IEEE World Haptics Conference (WHC) 2015*, pp. 165-170, 2015.

21. Rahul Chaudhari, **Yongjae Yoo**, Clemens Schuwerk, Seungmoon Choi, and Eckehard Steinbach, "Objective Quality Prediction for Haptic Texture Signal*," In Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP) 2015*, pp. 2224-2228, 2015.

22. Taekbeom Yoo, **Yongjae Yoo** and Seungmoon Choi, "An Explorative Study on Crossmodal Congruence Between Visual and Tactile Icons Based on Emotional Responses," In *Proceedings of the ACM International Conference on Multimodal Interaction (ICMI) 2014*, pp. 96-103, 2014.

23. **Yongjae Yoo** and Seungmoon Choi, "An Initial Study on Pitch Correction Guidance for String Instruments Using Haptic Feedback", In *Lecture Notes on Computer Science (Eurohaptics 2014, Part I),* Vol. LNCS 8618, pp 241-247, 2014.

24. **Yongjae Yoo**, Inwook Hwang and Seungmoon Choi, "Consonance Perception of Vibrotactile Chords: A Feasibility Study," In *Lecture Notes on Computer Science (HAID 2011)*, Vol. LNCS 6851, pp. 42-51, 2011.

Peer-reviewed Presentations in International Conferences

1. Jeremy Cooperstock, David Brun, Cyan Kuo, **Yongjae Yoo**, and Jeff Blum, "IMAGE: Accessible Internet Graphics via Audio and Touch," to be presented in *the 37th CSUN Assistive Technology Conference*, Northridge, CA, March 2022.

Peer-reviewed Demonstrations in International Conferences

1. **Yongjae Yoo**, Jaebong Lee, Jongman Seo, Eunhwa Lee, Jeongseok Lee, Yudong Bae, Daekwang Jung, and Seungmoon Choi, "Graphical Authoring Tool of Vibrotactile Stimuli Using Adjectival Space," Demonstrated in *Haptics Symposium* 2016, Philadelphia, PA.

2. Gunhyuk Park, **Yongjae Yoo**, Seungmoon Choi, Changdo Song, Minjoo Cho, Giuyeol Kim, Jaehun Kim, Sangmin Lee, and Kyogu Lee, "TouchMusic: Music Experience System for the Hearing-Impaired," Demonstrated in *World Haptics Conference* 2015, Chicago, IL.

3. **Yongjae Yoo** and Seungmoon Choi, "HapTune: Haptic Guidance for Pitch Correction of String Instruments," Demonstrated in *World Haptics Conference* 2013, Daejeon, Korea.

Domestic Journal Articles (Korean)

1. **Yongjae Yoo**, Inwook Hwang, Jongman Seo and Seungmoon Choi, "Multiple Vibration Signal Feedback for Mobile Devices," *Smart Media Journal*, Vol. 1, No. 4, pp. 8-17, 2012.

2. **Yongjae Yoo**, Inwook Hwang and Seungmoon Choi, "Tactile Icon Design Using Music Dynamics for Mobile Devices," *Journal of Korean Institute of Next Generation Computing*, Vol. 7, No. 5, pp. 24-34, 2011.

Peer-reviewed Domestic Conference Proceedings (Korean)

1. Hyoseung Lee, **Yongjae Yoo**, and Seungmoon Choi, "User Experience Evaluation of Motion-Rendered Human Gaits," in Proceedings of HCI Korea conference, pp. 32-35, 2020.

2. Jiwan Lee, **Yongjae Yoo**, and Seungmoon Choi, "Vestibular Threshold and Psychometric Function for Yaw Rotation," in Proceedings of HCI Korea conference, pp. 752-755, 2020.

3. Jongho Lim, **Yongjae Yoo**, Hanseul Cho, and Seungmoon Choi, "TouchPhoto: System for Photo Taking

and Understanding for Visually Impaired People," in *Extended Abstracts of HCI Korea conference*, pp. 311-314, 2018.

4. Gyeore Yun, **Yongjae Yoo**, and Seungmoon Choi "Implementation of Music Composition System Based on Gesture Recognition Using Natural User Interface," in *Extended Abstracts of HCI Korea conferenc*e, pp. 329-332, 2018.

5. **Yongjae Yoo**, Seyoung Oh, and Seungmoon Choi, "FeetNavi: Feet Vibrotactile Feedback for The Blind Navigation," in *Extended Abstracts of HCI Korea conference*, pp. 269-271, 2017.

6. Hyejin Choi, **Yongjae Yoo**, and Seungmoon Choi, "Thermal Tactile Rendering of Musical Features," in *Extended Abstracts of HCI Korea conference*, pp. 265-268, 2017.

7. Jongho Lim, Hanseul Cho, Inseok Koh, Sungho Seo, **Yongjae Yoo**, and Seungmoon Choi, "Implementation of A Photography Guidance and Viewing System for The Visually Impaired," in *Extended Abstracts of HCI Korea conference*, pp. 272-275, 2017.

8. Ki-eun Park, **Yongjae Yoo**, and Seungmoon Choi, "Drag and Roll: Gesture Interaction for Fine-tuning Task on Touchscreen," in *Proceedings of the Korea Computer Congress* 2016, pp.1381-1383 **(Winner of the best presentation paper award).**

9. Sangyoon Han, **Yongjae Yoo**, and Seungmoon Choi, "Gesture Interface and Vibration Feedback for Improvement of Office Environment," in *Proceedings of the Korea Computer Congress* 2016, pp.1405-1407.

10. Hojun Cha, **Yongjae Yoo,** and Seungmoon Choi, "A Secure Input Method Using Surface Texture Rendering," in *Extended Abstracts of HCI Korea conference,* pp. 86-87, 2016.

11. Taekbeom Yoo, **Yongjae Yoo,** and Seungmoon Choi, "An Initial Study on Congruence between Visual and Haptic Icons Based on Emotional Responses," in *Proceedings of the Korea Computer Congress*, pp. 1294-1296, 2014 **(Winner of the best paper award**).

12. **Yongjae Yoo** and Seungmoon Choi, "HapTune: A Haptic Feedback System for Pitch Learning of String Players," in *Proceedings of the HCI Korea*, pp. 149-151, 2014.

13. Juhwan Park, Bora Kang, **Yongjae Yoo,** and Sung. H. Han, "Comparison of Virtual Keyboard Customization Approaches for Smart Tablet Devices: Adaptive vs. Adaptable," in *Proceedings of Korean Ergonomics Society Annual Fall Conference*, 2012.

14. **Yongjae Yoo**, Inwook Hwang, and Seungmoon Choi, "Consonance Perception of Vibrotactile Chords: A Feasibility Study," in *Proceedings of the HCI Korea*, pp. 282-284, 2012.

Peer-Reviewed Domestic Conference Presentations (Korean)

1. **Yongjae Yoo**, Hojin Lee, Hyejin Choi and Seungmoon Choi, "Emotional Response of Vibrotactile-Thermal Stimuli: Effects of Constant Temperature Stimuli," in the *10th Korea Haptics Community Workshop*, 2017.

2. **Yongjae Yoo**, Hojin Lee, Hyejin Choi and Seungmoon Choi, "Emotional Response of Thermal-Vibrotactile Stimuli," in the 9th *Korea Haptics Community Workshop*, 2016.

3. **Yongjae Yoo** and Seungmoon Choi, "Emotional Response of Tactile Stimuli," in *Korea Society of Cognitive Science Annual Conference*, 2016.

4. **Yongjae Yoo**, "Tactile Rendering of Human Emotion," in *HCI Korea 2015 Doctoral Consortium*. 2014.

5. **Yongjae Yoo** and Seungmoon Choi, "Development of Haptic Tuner for Novice String Instrument Player," in *Korea Society of Cognitive Science Annual Conference*. 2013.

Tutorials, Invited Talks and Lectures

1. **Yongjae Yoo,** "Introduction of Multimodal Intelligence and Interaction Laboratory at Hanyang University ERICA," 1st Korea Haptics Society PI Symposium, Feb 21st, 2023.

2. Yongjae Yoo, "Exploiting User Responses Towards Haptic Stimuli for Designing Interactions," Graduate School of CSE/AI Colloquium, POSTECH, Nov 2nd, 2022.

3. Yongjae Yoo, "Exploiting User Responses Towards Haptic Stimuli for Designing Interactions," Graduate School Seminar, Kyung Hee University, Oct 27th, 2022.

4. **Yongjae Yoo,** "A Walkthrough on Haptic HCI Applications," invited online lecture, 2022 Spring, IIT (India) Jodhpur EE7XX0 Introduction to Haptics, Apr 18th, 2022

5. **Yongjae Yoo,** "Introduction to Audio-Vibrotactile Conversion," invited online lecture, 2020 Fall, POSTECH CS611 Advanced Haptics.

6. **Yongjae Yoo,** "Introduction to Audio-Vibrotactile Conversion," invited lecture, 2019 Spring, POSTECH CS611 Advanced Haptics.

7. **Yongjae Yoo**, "Introduction to Psychophysical Methodology and Statistical Analysis for Haptics Research," in *the 9th Korea Haptics Community Workshop*, Yonsei University, Seoul, Korea, November 4th, 2016.

International Patents

1. Eun-hwa Lee, Seung-moon Choi, Jae-bong Lee, **Yong-jae Yoo**, Jeong-seok Lee, Dae-kwang Jung, and Yu-dong Bae, "Method and Device for Generating Vibration from Adjective Space," U.S. Patent 9,600,984, Pub. Date: 2017-03-21.

2. Eun-hwa Lee, Seung-moon Choi, Jae-bong Lee, Jeong-seok Lee, Dae-kwang Jung, Yu-dong Bae, Jong-man Seo, **Yong-jae Yoo**, and Jae-min Chun, "Method and Device for Generating Vibration Based on An Adjective," U.S. Patent 9,880,570, Date: 2018-01-30.

Domestic Patents

1. Seungmoon Choi and **Yongjae Yoo**, "Musical Instrument Training System and Method Using Haptic Stimuli," Korean Domestic Patent Appl. No. 2013-0070147, Appl. Date: 2013-10-21, Pub. No. 10-1496546, Pub. Date: 2015-02-17.

2. Eunhwa Lee, Seungmoon Choi, Jaebong Lee, Jeongseok Lee, Daekwang Jung, Yudong Bae, Jongman Seo, **Yongjae Yoo,** and Jaemin Chun, "Method and Device for Generating Vibration Using Adjectives," Korean Domestic Patent Appl. No. 2014-0010881, Appl. Date: 2014-01-28.

3. Eunhwa Lee, Seungmoon Choi, Jaebong Lee, **Yongjae Yoo**, Jeongseok Lee, Daekwang Jung, and Yudong Bae, "Method and Device for Generating Vibration from Adjective Space," Korean Domestic Patent Appl. No. 2014-0012213, Appl. Date: 2014-02-03.

Student Advising

Current Students

1. Changhyun Oh, MSc. Student, Graduate School of Applied Artificial Intelligence, Hanyang University.

2. Haerim Kim, BSc. Intern, Graduate School of Applied Artificial Intelligence, Hanyang University.

3. Jaewan Lim, Undergraduate Intern, Division of Computer Science, Hanyang University ERICA

4. Jaejun Jung, Undergraduate Intern, Division of Computer Science, Hanyang University ERICA

5. Minho Chung, Undergraduate Intern, Division of Computer Science, Hanyang University ERICA

6. Eunchae Kim, Undergraduate Intern, Department of Artificial Intelligence, Hanyang University ERICA

7. Eunji Lim, Undergraduate Intern, Department of Artificial Intelligence, Hanyang University ERICA

8. Haeun Seo, Undergraduate Intern, Department of Artificial Intelligence, Hanyang University ERICA

9. Sungho Shin, Undergraduate Intern, Department of Artificial Intelligence, Hanyang University ERICA

10. Dayoung Kim, Undergraduate Intern, Department of Artificial Intelligence, Hanyang University ERICA

11. Hyeju Oh, Undergraduate Intern Department of Artificial Intelligence, Hanyang University ERICA

12. Seoyong Nam, Undergraduate Intern, Division of Computer Science, Hanyang University ERICA

13. Tae Hyeon Kim, Undergraduate Intern, Division of Computer Science, Hanyang University ERICA

14. Sanghyun Kim, Undergraduate Intern, Department of Computer Science and Engineering, Rensselaer Polytechnic Institute, NY, USA.

Teaching

Teaching Assistant Experience

2012 Spring and	Teaching Assistant (representative TA)
2013 Spring	**CSED273/274** Digital System Design and Experiment, POSTECH
	* Recipient of the Best TA award in 2013 Spring, Department of CSE, POSTECH

Course Instructor

2022 Fall	**DAI2002** Mathematics for Artificial Intelligence, Hanyang University ERICA
2023 Spring	**SCS4002** Virtual and Augmented Reality Programming, Hanyang University ERICA
	DAI3005 Speech Recognition

References

- Prof. Seungmoon Choi (Professor, Department of Computer Science and Engineering, POSTECH; choism@postech.ac.kr)
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