Minsik Choi

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Profile

Sound, Music, Interaction, and AI: How can music shape everyday sonic interactions through computational tools and AI?

I design creativity support tools, investigate AI-assisted everyday interactions informed by musical engagement, and evaluate their impact through mixed-methods user studies. My research interests include how musical principles can inform everyday interactions while everyday practices, in turn, enrich musical activities, and what enables creativity in AI-mediated interactions.

Human–Computer Interaction, Sonic Interaction Design, Auditory Interface, Creative Computing, Creativity Support Tools

Education

Australian National University

Ph.D. Computer Science   *Mar 2023 - Current*

- AI-Assisted Creativity Support Tool for Sonic Interaction Design with Musical Tension and Release
- Sound, Music, and Creative Computing Lab, Supervised by Dr. Charles Patrick Martin

Seoul National University

M.S. Industrial Engineering   *Mar 2021 - Feb 2023*

- Validation and Preference User Test of In-Vehicle Virtual Sound
- Center for Human Interface Systems, Supervised by Dr. Myung Hwan Yun

Seoul National University

B.M. Musicology and Music Theory   *Mar 2013 - Feb 2020*

- Historical Interpretation of Clarinet Repertoire and Ethnomusicology, Cum Laude, Supervised by Dr. Eungi Min

Sunhwa Arts High School

Clarinet Performance   *Mar 2010 - Feb 2013*

- Student President and Academic Excellence Awards

Publications

A Musical Tension and Release Framework for Sonic Interaction Designers

   Minsik Choi, Josh Andres, Alexander Hunter, Charles Patrick Martin

   Extended Abstracts of the CHI Conference on Human Factors in Computing Systems, 2025, Yokohama, Japan

GenAICHI 2025: Generative AI and HCI at CHI 2025

   Michael Muller, Lydia B Chilton, Mary Lou Maher, Charles Patrick Martin, Minsik Choi, Greg Walsh, Anna Kantosalo

   Extended Abstracts of the CHI Conference on Human Factors in Computing Systems, 2025, Yokohama, Japan

Scenario-Based Design to Envision How GenAI Can Support Sound Design Practices

   Minsik Choi, Josh Andres, Alexander Hunter, Charles Patrick Martin

   Proceedings of the 36th Australian Computer-Human Interaction Conference (*OzCHI*), 2024, Brisbane, Australia

Tonal Cognition in Sonification: Exploring the Needs of Practitioners in Sonic Interaction Design

   Minsik Choi, Josh Andres, Charles Patrick Martin

   Proceedings of the 19th International Audio Mostly Conference, 2024, Milan, Italy

Subjective Perception based on Acoustical Parameters for In-Vehicle Virtual Sound

   Minsik Choi, Woochul Jung, Sungho Kim, May Jorella Lazaro, Jeonghwan Lee, Soyoun Moon, Myung Hwan Yun

   AES International Conference on Automotive Audio, 2024, Göteborg, Sweden

Music Theoretical Approach to Auditory Interface Design: Progressive, Explainable, and Accessible

   Minsik Choi

Proceedings of the 15th ACM Conference on Creativity and Cognition, 2023

Factors Affecting Interior Acceleration Sound Preference for Electric Vehicles: a Path Analysis

May Jorella Lazaro, Sungho Kim, Adriance Wilfred Anggang, <u>Minsik Choi</u>, Myung Hwan Yun

Proceedings of the Human Factors and Ergonomics Society Annual Meeting, 2022

Design and Evaluation of Electric Vehicle Sound Using Granular Synthesis

May Jorella Lazaro, Sungho Kim, <u>Minsik Choi</u>, Kichang Kim, Dongchul Park, Soyoun Moon, Myung Hwan Yun

The Journal of the Audio Engineering Society. Audio Engineering Society, 2022

Human-Centered Design in Acoustics Education for Undergraduate Music Majors

<u>Minsik Choi</u>, Max Kapur

The Journal of the Acoustical Society of America. Acoustical Society of America, 2022

Experience

PhD Student Researcher

Sound, Music, and Creative Computing Lab *Mar 2023 - Current*

- Sonic interaction design tool development for practitioners combining workflows and tonal tension and release with AI
- Prototyping using JavaScript, React, p5.js, Tone.js, Tonal.js, Python, GenAI APIs, and Figma
- User studies using interviews, focus groups, scenarios, personas, lab experiments, and thematic/statistical analysis
- PRISMA-based scoping reviews and framework development integrating in-depth literature analysis and practical needs

Master's Student Researcher

Center for Human Interface Systems *Mar 2021 - Feb 2023*

- User evaluation on in-vehicle virtual sound with Harman International; an in-vehicle experiment with 30 musicians
- Industry projects involving user experiment design and execution with descriptive and inferential statistical analysis

Tutor (course teaching) and Teaching Assistant

Australian National University and Seoul National University *Sep 2019 - Current*

- Human–Computer Interaction, undergraduate and graduate, *COMP3900/6390 tutor ANU 2023, 2024, 2025*
- Sound and Music Computing, undergraduate and graduate, *COMP4350/8350 tutor ANU 2025*
- Art and Interaction Computing, undergraduate and graduate, *COMP1720/6720 tutor ANU 2023*
- Human Factors, undergraduate, *406.304 TA SNU 2021*
- Human Interface Design, undergraduate, *406.427A TA SNU 2021*
- History of Western Classical Music, undergraduate, *650.2242 TA SNU 2019*

Student Mentoring

Australian National University *Aug 2025 - Current*

- Designing Soundscapes for Verbal Interactions, ongoing undergraduate, *Anneysha Sarkar*
- Sonifying Health Data for Moderating Respiration Rate, ongoing undergraduate, *Aditya Grama*

Professional Service

HCI and Music Conferences *Mar 2023 - Current*

- Workshops Co-Chair (NIME' 25); Workshop Co-Organiser (GenAICHI' 25); Regional Chapter Leader (KASEA ANU' 25)
- Reviewer (CHI' 24, DIS' 25, NIME' 25, CHI' 26, OzCHI' 26)

Music Education Project Manager

Naver and Korea Educational Broadcasting System *Jan 2021 - Jun 2022*

- Planned and coordinated lesson programmes with SNU music faculty
- Led on-site filming and production for large-scale online music education
- Delivered 300 online music lessons published on Naver

Internships

Start-up Experiences   *Apr 2020 - Aug 2020*

- Ailys: Developed market-entry ideas for the Middle East and led channel acquisition in Southeast Asia for an ML-based solution
- Outliers: Designed BTL-focused user events as part of the early-stage setup of a social networking service

Projects

PhD Project

Sound, Music, and Creative Computing Lab   *Mar 2023 - Current*

- Tool development and evaluation; CadenceFlow: Creating Sonic Interactions through Musical Tension and Release
- Framework design with GenAI; A Musical Tension and Release Framework for Sonic Interaction Designers
- Prototyping with GenAI; Scenario-Based Design to Envision How GenAI Can Support Sound Design Practices
- Needs finding user study; Tonal Cognition in Sonifcation: Exploring the Needs of Practitioners in Sonic Interaction Design
- Systematic scoping review; Sonification and Music: A Systematic Scoping Review

Industry Projects

Human Interface Systems Lab   *Sep 2021 - Jan 2023*

- Subjective evaluation on in-vehicle virtual sound, *Harman International* (*Samsung Electronics*)
- Auditory display usability tests for electric vehicles, *Hyundai MOBIS*
- Usability evaluation tool for virtual engine sound, *Hyundai Motors*
- Galvanic vestibular stimulation device development for pilots, *Republic of Korea Air Force*

Undergraduate Projects

SNU and Korean Provincial Government   *Sep 2016 - Dec 2016*

- An ethnographic study on cheering culture of Korea University, Dr. Hilary Finchum-Sung
- An interpretation of clarinet repertoire from a performance perspective, Dr. Eungi Min
- Silk Road cultural project exploring 10 ports in 9 countries as a musician, Gyeongsangbuk-do

Clarinet Performance

Composition Presentations and Concert Performances   *2013 - Current*

- ANU Orchestra Concert, Australian National University, 2024
- Paris - Unwise Prince, Sungshin Women's University, 2022
- Reflection for 3 Clarinets in B flat, Ehwa Womans University, 2017
- The Last Resort, Hanyang University, 2016
- Chamber Music Night, Ewon Art Hall, 2013
- Root Woodwind Quintet Recital, Yonsei University, 2013

Achievements

2023-26	**PhD Scholarship**, Stipend for 3.5 years, travel and removal allowances	*ANU*
2023-26	**Fee Remission Merit Scholarship**, Doctoral program full tuition fee waiver	*ANU*
2021-22	**Scholarship for Next Academic Generation**, Master's program full tuition fee waiver	*SNU*
2017	**Undergraduate Independent Research Award**, Research grant and Encouragement award	*SNU*