Jongik Jeon

Sonic Interaction Designer & Researcher

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RESEARCH INTEREST

I explore new roles of sound for interaction design by building novel sound systems. My work focuses on three main actions: creating new sounds, creating new ways to make sounds, and creating new ways to hear sounds. Ultimately, I want to expand how we think and feel through sound, especially in everyday interactions and vehicle environments.

Keywords: *Human-Computer Interaction (HCI); Sonic Interaction Design; Human Factors; Automotive UX*

EDUCATION

Virginia Tech, Virginia, USA

***PhD**, Industrial and systems engineering* *Aug 2026 -*

Mind Music Machine Lab (advised by Myounghoon Philart Jeon)

KAIST, Daejeon, South Korea

***MSc**, Industrial design / Advisor: Chang Hee Lee* *Sep 2024 - Jul 2026*

Affective Systems and Cognition Lab (advised by Chang Hee Lee)

BSc**, Industrial design **(Outstanding graduate award) *Feb 2017 - Feb 2024*

KTH Royal Institute of Technology, Stockholm, Sweden

Exchange program, school of EECS *Jan 2020 - Mar 2020*

REPRESENTATIVE PROJECTS

Cartabile: Real-time continuous musification of fully autonomous driving context *(ongoing)*

Continuous and non-intrusive music-based sonification for Level 5 fully autonomous vehicles

- *Developed a responsive auditory display translating driving contexts to ambient electronic music using SuperCollider and Python*
- *Conducting a within-subject driving simulator study with 24 users, quantitatively evaluating auditory experience, situational awareness, trust in automation, and non-driving related task interference*

Sonic Being: Imagining sound as an independent entity *(2025)*

Reimagining sound as an independent entity that persists on its own beyond our perception

- *Built software/hardware integrated sound systems using Raspberry Pi and developed a real-time sound synthesis algorithm using Python*
- *Designed participatory workshops and a 7-day home deployment study with 12 users and conducted thematic analysis for qualitative data from diary studies and interviews using ATLAS.ti*

Sprayable Sound: Exploring the Experiential and Design Potential of Physically Spraying Sound Interaction *(2023-24)*

Sonic interaction design where users can physically spray sound into the surrounding space

- *Designed a physical sprayable sound system using MCU and conductivity-sensing circuits, integrated with a GPS-tracking application and BLE communication*
- *Conducted field user studies and collaborative ideation workshops using brainwriting with 23 participants, performing inductive thematic analysis on qualitative interview transcripts and concept sketches*

PUBLICATIONS

Sonic Being: Imagining sound as an independent entity

***Jongik Jeon**, Yoonji Lee, Chang Hee Lee*

***DIS 2026** (ACM Conference on Designing Interactive Systems)*

Sprayable Sound: Exploring the Experiential and Design Potential of Physically Spraying Sound Interaction

***Jongik Jeon**, Chang Hee Lee*

***CHI 2025** (ACM Conference on Human Factors in Computing Systems)*

Imagining Sonic Being: Participatory Workshop for Envisioning Sound as an Independent Entity

***Jongik Jeon**, Chang Hee Lee*

***IASDR 2025 poster** (International Association of Societies of Design Research Conference)*

SoundMist: Novel Interface for Spatial Auditory Experience

***Jongik Jeon**, Chang Hee Lee*

***UIST 2023 poster** (ACM Symposium on User Interface Software and Technology)*

Silent Suspense: Multimodal Haptics for Horror Film Experiences for Deaf and Hard-of-Hearing (DHH) Audiences

Yoonji Lee**,* ***Jongik Jeon*****, Byoungjae Kim***, Gurim Kim, Geumjin Lee, Chang Hee Lee (*equally contributed)*

***UIST 2025 poster** (ACM Symposium on User Interface Software and Technology)*

Design Exploration of Robotic In-Car Accessories for Semi-Autonomous Vehicles

Max Fischer, ***Jongik Jeon****, Seunghwa Pyo, Shota Kiuchi, Kumi Oda, Kentaro Honma, Miles Pennington, Hyunjung Kim*

***CHI 2024 video showcase** (ACM Conference on Human Factors in Computing Systems)*

Design Exploration of Robotic In-Car Accessories for Semi-Autonomous Vehicles

Hyunjung Kim, Max Fischer, ***Jongik Jeon****, Seunghwa Pyo, Kentaro Honma, Miles Pennington, Hailong Liu, Keisuke Shimono, Toshihiro Hiraoka*

***HRI 2024 late breaking reports** (ACM/IEEE Conference on Human-Robot Interaction)*

YM2413-MDB: A Multi Instrumental FM Video Game Music Dataset with Emotion Annotations

Eunjin Choi, Yoonjin Chung, Seolhee Lee, ***Jonglk Jeon****, Taegyun Kwon, Juhan Nam*

***ISMIR 2022** (International Symposium on Music Information Retrieval)*

RESEARCH EXPERIENCE

Mind Music Machine Lab, Virginia Tech, USA

Research Assistant (RA) *Aug 2026 -*

Affective Systems and Cognition Lab, KAIST, South Korea

Research Assistant (RA) *Jan 2023 - Jul 2026*

ETRI (Electronics and Telecommunications Research Institute), South Korea

Research Assistant (RA) on project awarded by the Ministry of Science and ICT *Jul 2024 - Dec 2025*

DLX Design Lab, University of Tokyo, Japan
Intern Researcher *Jun 2023 - Jan 2024*

Music and Audio Computing Lab, KAIST, South Korea
Intern Researcher *Jan 2022 - Mar 2022*

SketchLab, KAIST, South Korea
Undergraduate Research Student *Mar 2022 - Dec 2022*

AWARDS AND HONORS

Virginia Tech Science Festival Radical Result Award *Nov 2026*
Virginia Tech Alexander Walter Scholarship *Aug 2026*
KAIST President's Special Award *Nov 2023*
KAIST Outstanding Graduate Award in Industrial Design *Dec 2022*
KAIST College of Engineering Leadership Award *Mar 2023*
KAIST Alumni Scholarship *Jan 2020*
KAIST Dean's List *Dec 2019*
Republic of Korea Marine Corps Best Award for Military Culture Innovation *Jul 2021*
ICL (Imperial College London) & KAIST Design Hackathon Runner-up *Jun 2022*

RELATED EXPERIENCE

Exhibiting Artist
National Science Museum (Daejeon, South Korea) *May 2026*
In Transition: Programmable Designs (Seoul, South Korea) *Dec 2025*
Gwangju Design Biennale: You, the World (Gwangju, South Korea) *Aug 2025*
Inventive Minds and Ideas: Living in the Future (Seoul, South Korea) *Dec 2022*

Academic Reviewer (* for special recognition for outstanding reviewer)
IJHCS; CHI '27, '26 *; HRI '27; TEI '26, '27; IASDR '25; DIS '25

Research Mentor
Kelly Kim (VT CS undergraduate student) *Aug 2026 -*
Seowon Noh (KAIST EE undergraduate student) *Aug 2025 -*

Teaching Assistant
Virginia Tech) Facilities and Logistics
KAIST) Interaction Prototyping; Graduation Design Studio II; Introduction to Design; Logical Writing

Military Service
Marine Artillery, Republic of Korea 1st Marine Division *Jul 2020 - Jan 2022*

SKILLS

Fabrication
Hardware prototyping and integration (Fusion 360); Embedded systems (Arduino, Bluno, Raspberry Pi); Circuit design; 3D modeling and printing; Laser cutting; Graphical design (Figma, Illustrator)

Programming
Python; Javascript; SuperCollider; C# (Unity); HTML/CSS; Processing; Max MSP

Qualitative research

Participatory design; Interview; Focus group interviews; Thematic analysis; Field deployment study

Music

Instruments (Guitar, Piano, Bass, Harmonica); DAWs (Logic Pro, FL Studio); Electronic sound synthesis; Jazz harmony; Improvisation; Songwriting

LANGUAGE

English *(Fluent)*; **Japanese** *(Intermediate)*; **Korean** *(Native)*