

# EUNJIN CHOI

Curriculum Vitae (Last update: May 7, 2025)

Ph.D Candidate @ Music and Audio Computing Lab, KAIST

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## RESEARCH INTERESTS

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Symbolic Music Processing, Music Informational Retrieval

My research focuses on enabling machines to learn and understand the compositional rules of human-created music. I develop models that capture musical structure and support controllable generation guided by human intention. Ultimately, I aim to empower creative musicking through technologies that foster human creativity and expression. The detailed task is as follows:

Generation: Symbolic music generation with musical constraints

Representation: Symbolic music representation, symbolic music understanding, symbolic music analysis

## EDUCATION

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### Ph.D. Student in Culture Technology

Mar. 2022 – Present

Korea Advanced Institute of Science and Technology (KAIST), Daejeon, Korea

Advisor: Juhan Nam

### M.S. in Culture Technology

Mar. 2020 – Feb. 2022

Korea Advanced Institute of Science and Technology (KAIST), Daejeon, Korea

Thesis: YM2413-MDB: A Collection of Multi-instrumental Symbolic Music and 1980s FM Music Generation for Video Game

Advisor: Juhan Nam

### B.E. in Convergence

Mar. 2015 – Feb. 2020

Daegu Gyeongbuk Institute of Science and Technology (DGIST), Daegu, Korea

Graduated magna cum laude

## JOURNALS

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### Mel2Word: A Text-based Melody Representation for Symbolic Music Analysis

Saebyeul Park, **Eunjin Choi**, Jeounghoon Kim, Juhan Nam

Music and Science, 2024

## CONFERENCES

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### D3PIA: A Discrete Denoising Diffusion Model for Piano Accompaniment Generation

**Eunjin Choi**, Hounsung Kim, Hayeon Bang, Taegyun Kwon, Juhan Nam

Submitted to the 25th International Society for Music Information Retrieval Conference (ISMIR), 2025 (Under Review)

### On the De-duplication of the Lakh MIDI Dataset

**Eunjin Choi**, Hyerin Kim, Jiwoo Ryu, Juhan Nam, Dasaem Jeong

Submitted to the 25th International Society for Music Information Retrieval Conference (ISMIR), 2025 (Under Review)

### PianoBind: A Multi-modal Joint Embedding Model for Pop-piano Music

Hayeon Bang, **Eunjin Choi**, Seunghoon Doh, Juhan Nam

Submitted to the 26th International Society for Music Information Retrieval Conference (ISMIR), 2025 (Under Review)

### PIAST: A Multi-modal Piano Dataset with Audio, Symbolic and Text

Hayeon Bang, **Eunjin Choi**, Megan Finch, Seunghoon Doh, Seolhee Lee, Gyeong-Hoon Lee, Juhan Nam

Proceedings of the 3rd Workshop on NLP for Music and Spoken Audio (NLP4MuSA), 2024

## Teaching Chorale Generation Model to Avoid Parallel Motions

Eunjin Choi, Hyerin Kim, Juhan Nam, Dasaem Jeong

Proceedings of the 16th International Symposium on Computer Music Multidisciplinary Research (CMMR), 2023

## Bridging Audio and Symbolic Piano Data through a Web-Based Annotation Interface

Seolhee Lee, Eunjin Choi, Joonhyung Bae, Hyerin Kim, Eita Nakamura, Dasaem Jeong, Juhan Nam

Late Breaking Demo in the 24th International Society for Music Information Retrieval Conference (ISMIR), 2023

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

Eunjin Choi, Yoonjin Chung, Seolhee Lee, Jong Ik Jeon, Taegyun Kwon, Juhan Nam

Proceedings of the 23rd International Society for Music Information Retrieval Conference (ISMIR), 2022

## Harmonionz, Rescue The Planet: A Voice Visualizing Game that Match Pitch with Color

Hajun Kim\*, Eunjin Choi\*, Byeoli Choi\* (\*Equal Contribution)

2021 Annual Symposium on Computer-Human Interaction in Play, 2021

\*All authors contributed equally to this work.

## DOMESTIC CONFERENCES

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### Cutting Kim: VR Voice Interaction Game

Joonhyung Bae, Eunjin Choi, Juhan Nam

Proceedings of the HCI Korea 2023, 2023

## RESEARCH EXPERIENCES

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### Neutune, South Korea

Research Intern, Symbolic Music Generation

Jun. 2021 – Sep. 2021

### INFINYX, South Korea

Research Intern in AI Development Team, Medical Image Segmentation (gallbladder)

Jul. 2019 – Aug. 2019

### Visual Computing Lab, DGIST, South Korea

Research Intern, Super-Resolution and Denoising

Jan. 2019 – Feb. 2019

### Music and Audio Research Group, Seoul National University, South Korea

Research Intern, Music Cognition Study and Musical Syntax Experiment

Jul. 2018 – Nov. 2018

### Stem Cell Institute, University of Cambridge, United Kingdom

Research Intern, Studying Lung Stem Cell Tumor Development

Jan. 2018 – Feb. 2018

## TEACHING EXPERIENCES

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### Creating Games with Unity

Main Instructor, KAIST SW Education Center

Apr. 2023 - Dec. 2023

### Computational Analysis of Music

Teaching Assistant, Daejeon Science High School R&E

Mar. 2022 - Dec. 2022

### Investigation of Mozart Dice Music Generation System

Teaching Assistant, Daejeon Science High School R&E

Mar. 2021 - Dec. 2021

### Game Studies (GCT544)

Teaching Assistant, KAIST Graduate School of Culture Technology

Sep. 2020 - Dec. 2020

## EXHIBITIONS & WORKSHOPS

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Exhibition, ACT Festival 2023: Future Legends, Asia Culture Center, Gwangju, Korea

Nov. 2023

Workshop, 2022 Daejeon Art and Science Biennale: The Future City Associated Program - Game and Art: Future City of Fantasy, Daejeon Museum of Art, Daejeon, Korea

Oct. 2022

## INVITED TALKS

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“Introduction to Music Information Retrieval”, DGIST	Mar. 2023
“Introduction to Music Transcription and Audio and Symbolic-level Music Analysis”, DGIST	May. 2024
“The Making Process of Harmonionz, Rescue the Planet”, KAIST	Sep. 2021

## AWARDS AND HONORS

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NC Scholarship, NCSoft	2022
1st Prize, KAIST x NCSoft Game Design Course	2020
Finalist, Unity Game Development Challenge (G-STAR 2018)	2018
DGIST Undergraduate Research Award	2018
1st Prize, Poster Session, DGIST Undergraduate Research Program	2017
Hye-seul Leadership Award, DGIST	2017
Academic Excellence Award, DGIST	2016

## SERVICES

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<b>Korean Society for Music Perception and Cognition (KSMPC)</b> Accountant	2022 - 2024
<b>Game and Art: Auguries of Fantasy explores ‘Fantasy Reality’</b> Daejeon Museum of Art, KAIST Graduate School of Culture Technology and NCSoft, Korea Exhibition Assistant	Jun. 2021 - Sep. 2021

## SKILLS

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<b>Programming Languages</b>	Python, C, C++, C#, Matlab
<b>Deep Learning Framework</b>	PyTorch
<b>Game Development</b>	Unity, VR (Oculus Quest 2)
<b>Web Development</b>	HTML, JavaScript, Django
<b>Musicking</b>	Violin, piano, acoustic guitar; music composition experience