김동민, DongMin Kim

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homepage | google scholar | github | linkedIn

RESEARCH INTEREST

Optical Music Recognition, Training Data Synthesis, Semi-Supervised Learning, Music Information Retrieval

I teach machines to read and listen to music. My research focuses on developing frameworks that enable machines to translate between different modalities of music: from score images to symbolic notation to performance audio. I've built the YouTube Score Video dataset with **1,300+ hours** of paired score-audio data and achieved the first successful direct score-image-to-audio generation.

Currently, I focus on cross-modal music translation and optical music recognition (OMR), working with both Western classical and Korean traditional notation systems. My goal is to achieve human-level automatic music transcription across diverse musical traditions.

EDUCATION

- **Sogang University**   *Aug 2023 -*
  M.S. in Artificial Intelligence (Advisor: Dasaem Jeong)   Seoul, South Korea

- **Sogang University**   *Feb 2014 - Feb 2020*
  B.A.S. in Art and Technology   Seoul, South Korea
  ◦ GPA: 3.51/4.30
  ◦ Honors: *Magna Cum Laude*

PUBLICATIONS   (*: EQUAL CONTRIBUTION)

- **Peer-reviewed Publication**

  ◦ Dongmin Kim, Danbinaerin Han, Dasaem Jeong, and Jose J Valero-Mas, "**On the Automatic Recognition of Jeongganbo Music Notation: Dataset and Approach**", ACM Journal on Computing and Cultural Heritage (JOCCH), 2025.

  ◦ Danbinaerin Han, Mark Gotham, Dongmin Kim, Hannah Park, Sihun Lee, and Dasaem Jeong, "**Six Dragons Fly Again: Reviving 15th-century Korean Court Music with Transformers and Novel Encoding**", in *Proc. of the 25th International Society for Music Information Retrieval Conference (ISMIR)*, 2024.

- **Workshop Papers**

  ◦ Dongmin Kim, Danbinaerin Han, Dasaem Jeong, and Jose J Valero-Mas, "**Optical Music Recognition for Jeongganbo Notation of Korean Court Music**", in *Late Breaking/Demo in the 25th International Society for Musical Information Retrieval Conference (ISMIR)*, 2024.

- **Preprints**

  ◦ Jongmin Jung*, Dongmin Kim*, Sihun Lee, Seola Cho, Hyungjoon Soh, Irmak Bukey, Chris Donahue, Dasaem Jeong, "**Unified Cross-modal Translation of Score Images, Symbolic Music, and Performance Audio**", *arXiv*, 2025.

PROJECTS

- **Research for the Restoration of 15th Century to Jeongak. Using Artificial Intelligence [⬡]**   *Sep 2023 - May 2024*
  ◦ Preprocessed Jeongganbo scorebooks to machine-readable Jeongganbo dataset
  ◦ Implemented optical music recognition framework for Jeonggn-bo notation.

EXPERIENCE

- **Myown Company [🌐]**   *Apr 2021 - Nov 2022*
  System Developer   Seoul, South Korea

  ◦ Developed AI resume analyzer
  ◦ Developed web service for job position matching
  ◦ Developed company's official web site
  ◦ Developed internal automation framework for email, notion, etc.

TEACHING EXPERIENCE

- **TA of CSE3013 "Computer Science and Engineering Laboratory I"**   *Fall 2023*
  Programming and algorithm practice using C++   Sogang University
- **TA of CSEG416 "Pattern Recognition"**   *Spring 2024*
  Introduction on pattern recognition with machine learning   Sogang University

HONORS AND AWARDS

- **Best Paper Award**   *Nov 2024*
  25th International Society for Music Information Retrieval Conference (ISMIR)
  ◦ As an one of the authors of "Six Dragons Fly Again: Reviving 15th-century Korean Court Music with Transformers and Novel Encoding"
- **Smilegate Scholarship for Digital Human & Entertainment trak**   *Aug 2023*
  Smilegate
  ◦ Funding: ₩36,000,000 ($\approx$ \$25,000)

LANGUAGE & SKILL & INTERESTS

- **Languages:** English(fluent), Korean(native)
- **Programming Languages:** Python, Javascript, C/C++
- **Frameworks:** PyTorch, React.js, openFrameworks
- **Interests:** Noise Music, Synthesizer, Guitar Effectors, Films, Judo

REFERENCES

1. **Dasaem Jeong**
   Professor, Art and Technology
   Sogang University
   Email: dasaemj@sogang.ac.kr
   Relationship: Thesis Advisor