

Jaehyun On

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Education

KAIST

M.S. IN GRADUATE SCHOOL OF CULTURE TECHNOLOGY

Daejeon, S.Korea

Mar. 2026 - (expected)

Sogang University

B.S. IN ART&TECHNOLOGY

Seoul, S.Korea

Feb. 2022 - Aug. 2025

- Graduated as the salutatorian of the department. (GPA : 4.31/4.5)
- Finished the program in an accelerated seven semesters.

Work & Research Experience

Through the Liar. Co., Ltd.

AI/INTERACTION ENGINEER

Seoul, S.Korea

Feb. 2025 - Jun. 2025

- Developed a system to analyze and classify AI-generated music based on similarity metrics.
- Built the web application functionality to deliver and present the classified music to users.

Creative Computing Group, Sogang University

UNDERGRADUATE RESEARCH ASSISTANT

Seoul, S.Korea

Jun. 2024 - Dec. 2024

- Participated in the "Development of Next-Generation Computational Media Technology" project.
- Developed a web-based application for life-logging and memory recording.
- Showcased the final project at a public demo exhibition on Nodeul Island.

Advanced Next-generation Semiconductor Lab, Seoul National University

UNDERGRADUATE RESEARCH ASSISTANT

Seoul, S.Korea

Feb. 2024 - Aug. 2025

- Co-first Author, "Bidirectional Machine Learning Technology to Predict the Electrical Characteristics and Optimize Structural Parameters of a Stacked Nanosheet FET." (Paper under review)
- Developed an AI model to predict the electrical properties of semiconductor devices using experimental results.

Projects

AI MASTERING DETECTOR: ANALYZING THE IMPACT OF AI ON MUSIC POST-PRODUCTION

ISMIR 2025 LBD

JAEHYUN ON, CHAEHO MYUNG, DASAEM JEONG (PROJECT ON DEEP LEARNING FOR MUSIC&AUDIO - AATG015)

Sep. 2025

- Developed a classification model to detect iZotope Ozone mastering in audio tracks, using a custom dataset and the HTDemucs encoder.
- Analyzed tracks from Spotify and Soundcloud with the model to quantify the prevalence of Ozone in released music.

Cake-able Diffusion

TEAM PROJECT ON GENERATIVE AI - AATG010

Jun. 2025

- Extracted semantic features (animal species, texture) and dominant colors from user-provided images using CLIP and OpenCV with KMeans clustering.
- Fine-tuned a YOLO model on a custom dataset to automatically detect and crop the pet, then processed the cropped image with a Canny edge filter to create a structural map for the generation model.
- Developed a system to dynamically generate prompts for OpenAI GPT, using the extracted features to suggest a list of visually similar dessert concepts.
- Built a pipeline using Stable Diffusion XL and ControlNet that takes the Canny edge map and an LLM-generated dessert prompt as inputs to generate a final, structurally consistent image.

Crossroad (Music Album - EP)

JAEHYUN ON, SHIN WOOSOK

Apr. 2025

- Released a self-produced EP, overseeing all aspects of songwriting, composition, mixing, and mastering in-house.
- The music has been officially distributed and is available for streaming on services including Melon, Spotify, and Apple Music.

The Correlation and Influencing Factors Between the Spotify Database and YouTube Views

TEAM PROJECT ON INDUSTRIAL MATHEMATICS - MAT4331

Dec. 2024

- Constructed and enriched a custom dataset of musical characteristics and user engagement metrics (e.g., views, comments) by crawling data from YouTube and Spotify.
- Applied unsupervised clustering algorithms (KMeans, DBSCAN) and executed regression tasks using deep learning models for tabular data (TabNet, TabTransformer).
- Leveraged hyperparameter tuning techniques such as the Elbow Method and GridSearchCV to analyze the relationship between musical characteristics and user engagement data.

Rumination

INDIVIDUAL PROJECT ON CREATIVE CAPSTONE PROJECT I - AAT2005

Dec. 2024

- Identified key UX issues in standard 'Audio-to-Haptic' systems, primarily perceived latency and a lack of distinct sound source separation.
- Implemented an enhanced processing pipeline that combines low-pass filtering with an AI-powered stem-splitter (spleeter) to isolate and map haptic feedback to specific instruments like bass and drums.
- Conducted two rounds of user tests where participants compared the new system against the conventional method across various music genres, providing qualitative feedback on immersion and synchronization.
- Validated that the AI-enhanced system provided a superior user experience, with test subjects unanimously preferring it for its significant reduction in perceived delay.

Inside Data, Insight Data

TEAM PROJECT ON NATURAL LANGUAGE PROCESSING - AAT3020

Dec. 2024

- Constructed a large-scale dataset by crawling approximately 50,000 financial news articles.
- Engineered features by aligning the news data with historical stock prices from yfinance based on timestamps.
- Developed and trained a predictive model to forecast stock price direction (up or down) using the textual content of the news articles.