English version of the program of the 2nd Seminar on Artificial Intelligence applied to Sound and Music Composition

This is a preliminary and unordered program of the seminar which will be completed and scheduled.

Suguru Goto: The Technique of Contemporary Music Composition with using Deep Learning

As a matter of fact, this composition is not an example of performing while using AI on the stage, but rather an example of using Deep Learning to compose and intends an instrumental performer to play it with a score. In order to do this, one may raise the following questions: Can Deep Learning really influence on the progress of composition? For a compositional use, how should AI be used for the development of music? What kinds of new ideas can be explored to compose with Deep Learning? Rather, can it lead to new ideas? Can the algorithm that is regarded as a part of AI be used to truly surpass the traditional algorithmic composition?

Jie Man: Introduction of bach library in Max/MSP

Introduction of a library for the Max/Msp environment named bach, by which the two elements — computer-aided composition and real-time environment can be combined. The usage and practical examples of the bach library will also be discussed.

Shinae Kang: A discussion of works created with the aid of AI and AI research trends for music.

Shinae Kang introduces artworks created with the aid of AI and AI research trends for music. Plus, she talks about the future possibilities of AI in the music area.

Jinwoong Kim: Orchidea, An intelligent assisted orchestration tool.

Jinwoong Kim talks about Orchidea, which is an assisted orchestration tool developed in IRCAM. He introduces concepts of Orchidea and which AI techniques Orchidea uses.

Sachi Ihara: AI composition and physicality --from Virtual Composer-Singer to Music Robots all over the world--

Currently, like most artificial intelligence has no physicality, most AI composition is the thing that is replaced the composer's brain artificially. However, researches, that may be called "AI music body agent" provided with both intelligence and body for the musical composition, are progressing in the world recently. Therefore, entitling "AI composition and physicality", I would like to talk about the possibilities of artificial intelligence that connects the composer's intelligence and his body, such as AI composer-musician robots around the world.

Philippe Esling: Modeling musical creativity with variational inference and probabilistic generative models.

Daisuke Saito: Modeling vocals in music.

Naotake Masuda: FlowSynth model for parameter inference and meta/semantic control of digital synthesizers (VST).

Adrien Bitton: Neural granular sound synthesis for raw waveform generation.

Granular synthesis is a broadly used technique for sound synthesis. Its underlying concepts relate to generative neural networks, which can implement it and address some traditional limitations of the technique. It is an avenue of research for raw waveform generation that has not been yet studied in the machine learning

community. Introducing a Variational Auto-Encoder model suited to this extent, we will discuss the interpretability of its components and report experiments for musical note and drum generation as well as texture synthesis and non-musical audio generation.