Portfolio

"Systems for Creators"
by Atsuya KOBAYASHI

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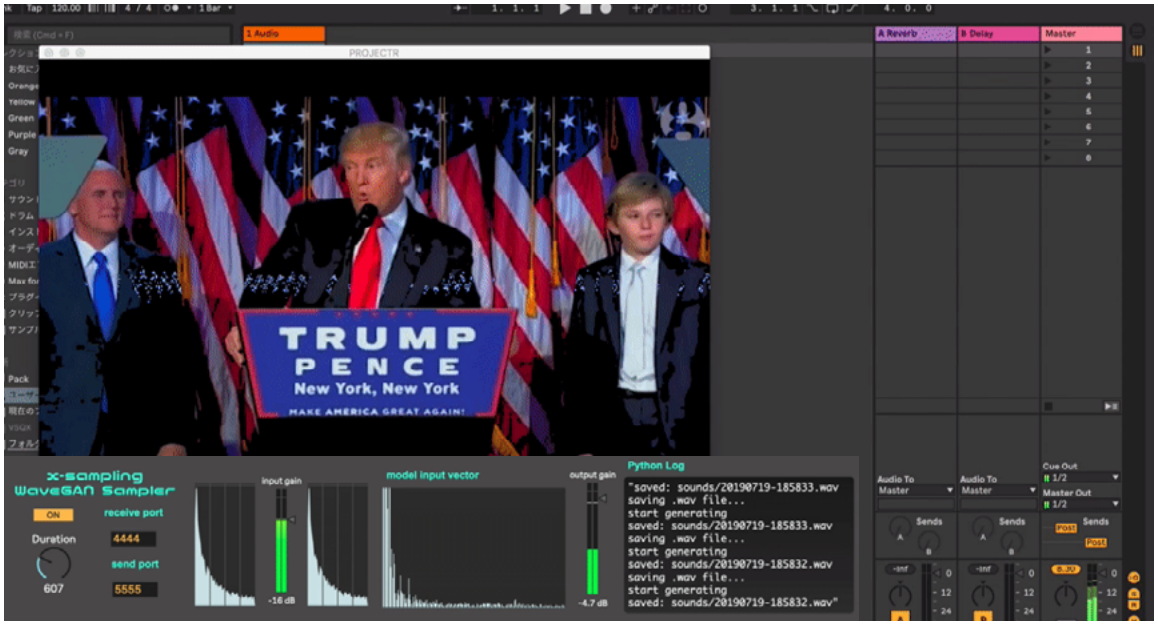
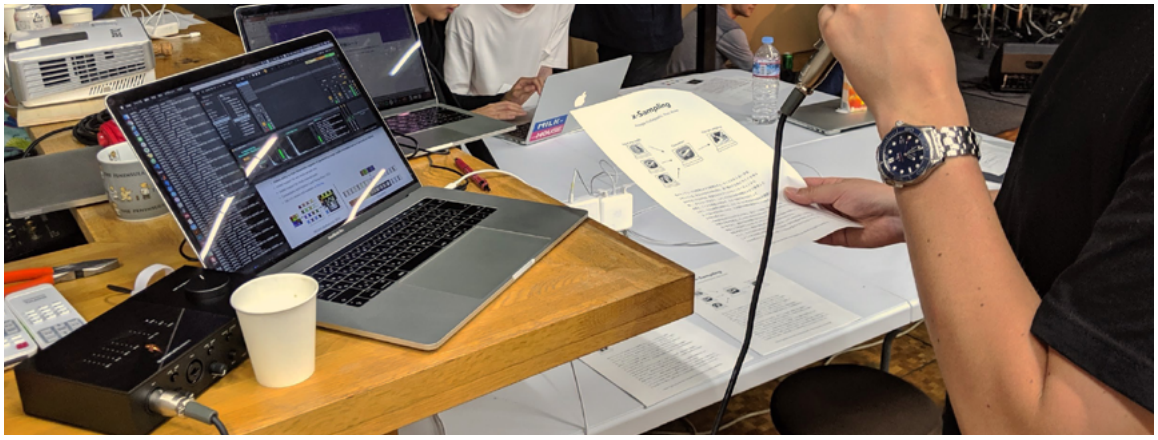
Keio University SFC Computational Creativity Lab.

Sample Sound Transforming with Generative Adversarial Networks

2019 Spring / Atsuya Kobayashi (System) + Reo Anzai (Sound Design)





The system uses a WaveGAN, which is Generative Adversarial Model applied to generate sound wave data, to convert the input voice into "bird calls", "piano sound" and "other people's voices" in real time.

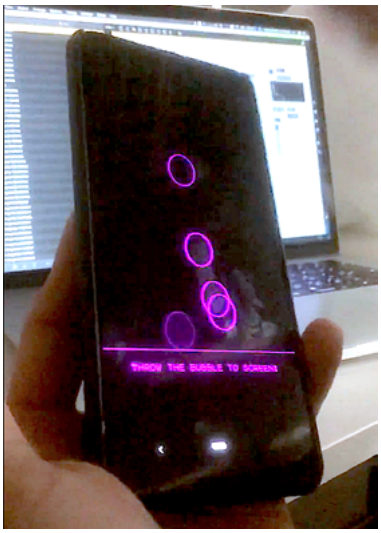
Integrated with Ableton Live and Max, this Python system for Transforming with GAN models is able to used for sound expression and performance, installation.

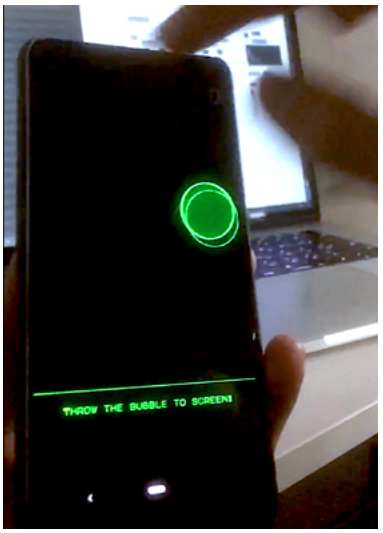
In the exhibition at LIQUIDROOM KATA, the voice of Donald Trump's majestic speech was transformed into a cute little bird call.

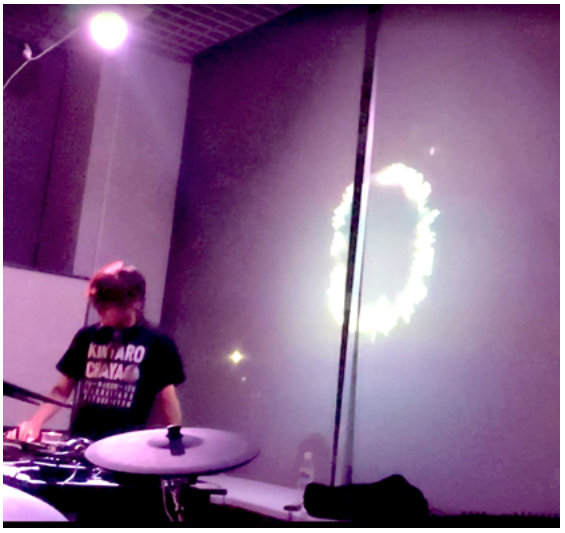
For the exhibition at the university, the visitor's real-time voice was transformed into a piano tone and played back with a beat.

Web Application for Interactive Music Performance

2019 Summer / Atsuya Kobayashi (System) + Reo Anzai (Music)





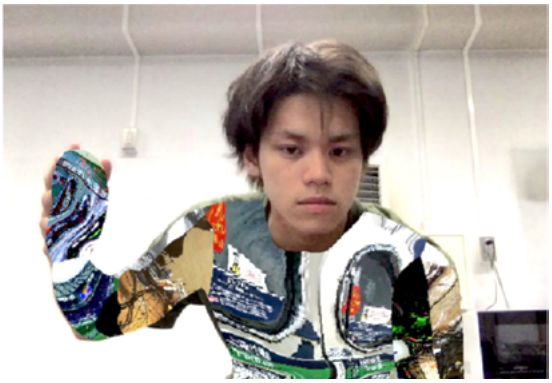


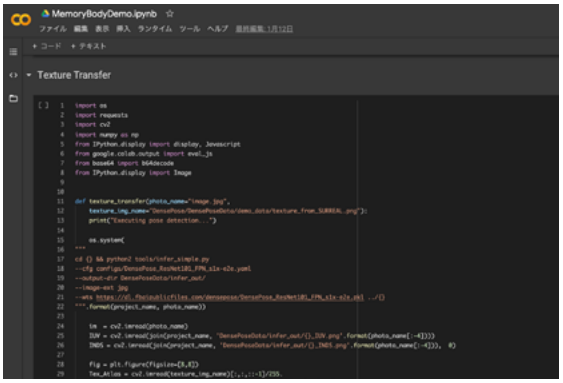
This Web application based system allows the audience to participate in live music performances and DJ performances. When the audience accesses the QR code presented by the performer, they can interact with the "bubble interface". By popping the bubbles on the screen, sounds corresponding to the color and size of the bubbles are emitted along with music performance.

We performed demonstration at X-Music Night, a music event held at Keio University SFC. In the section where the sound was reflected by the audience's participation, the audience was able to use their own smartphones to make reflection sounds by flicking the bubbles, and create the performance together.

MemoryBody
"Wearing Digital Memories"

2019 Summer / Atsuya Kobayashi (System and Demo)





"MemoryBody" is for supporting desighn process of textile. By using this system, the designer can expresse the state in which one's own body has been hijacked by virtual images on a social networking service by dressing one's own Instagram posts (memories) on one's own photo (body).

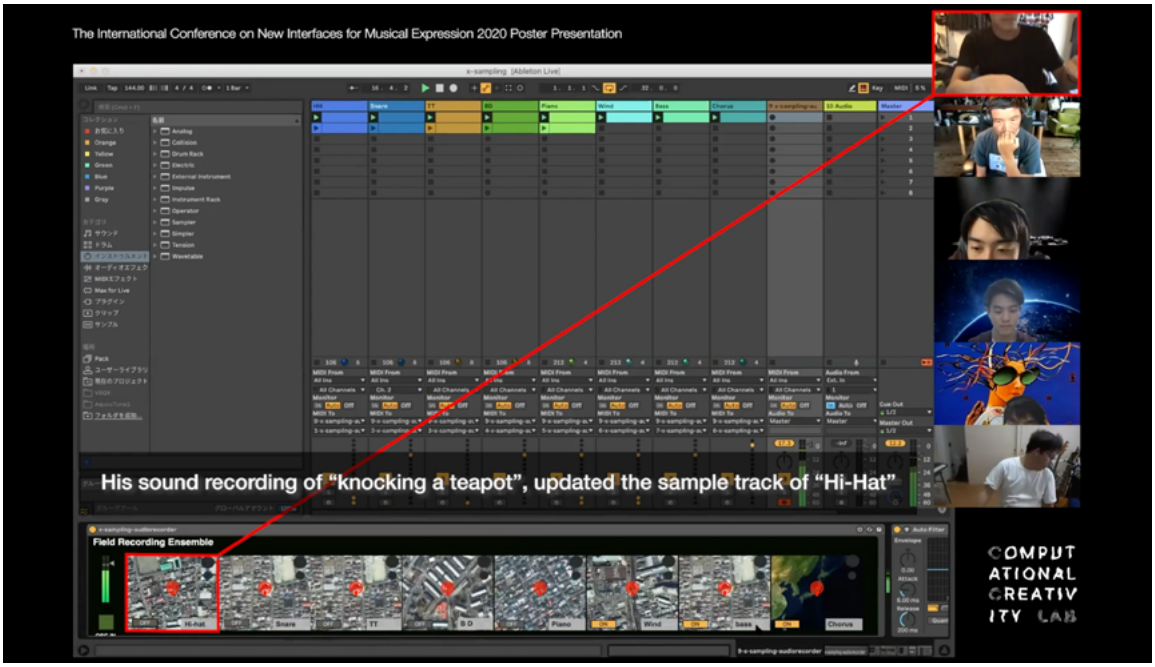
But, unexpectedly, when we try this on famous talent's account, it seems like cool

The system uses DensePose for pose estimation and prediction of the UV coordinates of the body surface in order to generate a photo of the user wearing an image. User's photos posted to instagram are automatically collected.

The entire system is designed to run on Google Colaboratory and anyone can try it out.

ExSampling: Real-time Field Recording Ensemble Performance

2020 Winter / Atsuya Kobayashi (System) + Reo Anzai (Music Performance)



We proposed an integrated system of recording application and Deep Learning environment for a real-time music performance of environmental sounds sampled by field recording. Automated sound mapping to Ableton Live tracks by Deep Learning enables field recording to be applied to real-time performance, and create interactions among sound recorders, composers and performers.

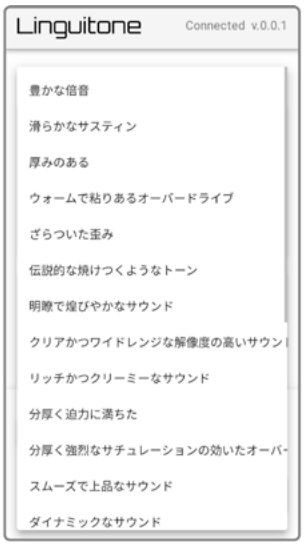
In this situation of the coronavirus, we demonstrated an online session.

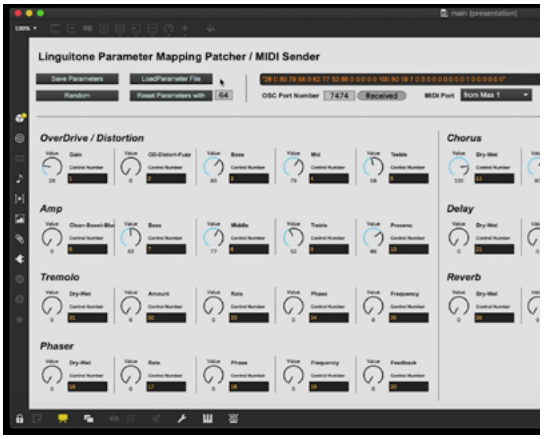
Sounds recorded by distant participants with their smartphones were sent to the host PC, where music It becomes part of the performance and acts as an instrument.

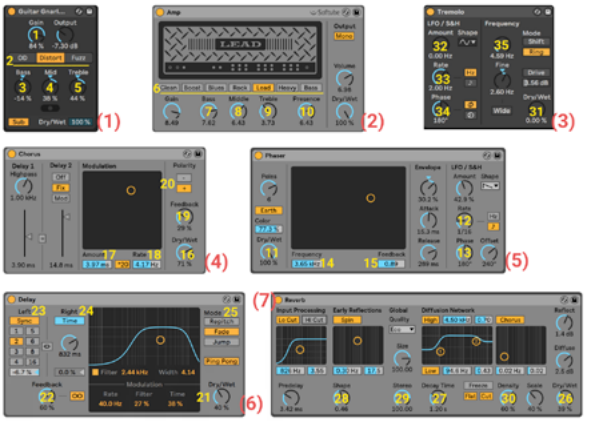
Demo video available at
https://vimeo.com/429487994

Linguitone: A Web-based System to Assist in Making Electric Guitar Sounds Using Natural Language Expressions

2021 Winter / Atsuya Kobayashi







It is thought that beginners do not connect the verbal expression of the sound image with the actual sound image, and it is difficult for them to create a concrete sound image from these tone expressions and to actually create a sound using an effector. From the results of the preliminary survey, it was found that it is difficult to imagine the sound without at least three years of playing experience.

In this study, we focused on the pattern of linguistic expression of tone expression phrases, and developed Linguitone, a system to support sound creation using a model that predicts parameters of guitar effectors from embedding vectors of natural language.

Demo video is available at https://www.youtube.com/watch?v=rVBiaRbN19U