

3rd Conference on AI Music Creativity

Music Session

Interaction & Improvisation #2

Thursday, 15 September 2022

12:00 JST (UTC+9)



Hongshuo Fan
Mark Hanslip
Farzaneh Nouri

Conversation in the Cloud
SoloSoloDuo
Énacteur x Énacteur I

Conversation in the Cloud

Conversation in the Cloud is a live multimedia composition for one human musician and one AI musician. With the combination of live multimedia and two musicians' performances, two musicians' conversations start at the intersection of reality and virtuality via music. Then, both musicians will push their limits through improvisation based on each other's music. Finally, the two worlds gradually blend as the conversation deepens to reveal this multi-dimensional music conversation. The AI musician is a comprehensive system that applies multiple machine learning techniques to enhance its machine musicianship. For instance, integrate the real-time music information retrieval and the human body pose estimation to capture the human performer's stats; apply LSTM-based neural networks to drive a physical modelling sound synthesiser to generate reasonable musical responses.

Hongshuo Fan (b.1990) is a Chinese cross-disciplinary composer, new media artist and creative programmer. His work has involved various real-time interactive multimedia contents, such as acoustic instruments, live electronics, generative visuals, light and body movements. His research and creative interest focus on the fusion of traditional culture and cutting-edge technology in the form of contemporary art. His output spans chamber music, live interactive electronics, installations, and audio-visual works.

SoloSoloDuo

SoloSoloDuo is a sequence of 3 tenor saxophone improvisations presented as a single piece. The piece's structure is defined by the process of training a convolutional neural network to differentiate modes of improvisation. The first two solo improvisations act as datasets on which the classifier is trained; in the third section, the trained classifier is used as an intermediary for human-computer interaction, where sample playback is governed by its decisions and confidence scores. The piece is accompanied by visuals generated with a combination of a StyleGAN2 model trained on Derrick Shultz's "Rocks" dataset, and Mikael Alafriz's *Lucid Sonic Dreams* visualizer.

Mark Hanslip, tenor saxophonist, emerged in the mid-2000s as a player on the London jazz scene, gigging nationally and internationally with groups including Outhouse, Nostalgia 77, Jonathan Bratoeff Quartet and Twelves, and has appeared on over 30 recordings on labels including Babel, F-iRE, Tru Thoughts, FMR and Tombed Visions. Now based in the north, he co-leads organ trio The Revival Room with keyboardist Adam Fairhall, plays in quartet with Federico Reuben, Dominic Lash and Paul Hession, has toured with HTrio plus guest US trumpet pioneer Nate Wooley, and plays with US laptop musician and researcher Ted Moore. His doctoral practice-led research at the University of York examines the relationship between systematic processes and outcomes in improvised music through musical practice and machine learning models of improvisation. He has presented his work at York Festival of Ideas, University of York's music research seminar series and at the Embedded AI Workshop at NIME 2022.

Énacteur is an AI driven agent, designed to actively participate in live electroacoustic improvisation performances. Using machine listening, it analyzes the incoming sounds from the other musician(s), synthesizes sounds in response according to the compositional strategy it was trained on, and spatializes it to multiple channels in real-time. *Énacteur x Énacteur I* is a binaural recording of a live improvisation, from a series of machine improvisation performances. It is performed by two AI agents derived from *Énacteur*. In this piece, the same system expresses two different behaviors picked up from two different training sets. The synergetic interaction between the two agents in space, results in a sonic experience perceived as a whole.

Farzaneh Nouri (aka Farzané) is a musician, researcher, and sound artist based in the Netherlands. Her works are investigations in various disciplines such as electroacoustic music composition, computer science, linguistics, and acoustic ecology. As tools as in her artistic experiments, she uses creative coding, field recordings, acoustic and programmable instruments. Her recent pieces explore complex systems, natural algorithms, and human-machine interaction. The focus of her current research is on artificial intelligence methods in the framework of algorithmic composition and live electroacoustic improvisation.