3rd Conference on AI Music Creativity

Music Session
Interaction & Improvisation #1

Wednesday, 14 September 2022
13:00 JST (UTC+9)

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Fernando Egido
Jack Walker

Inference Engines
Collaborametrum
Power Trio

Inference Engines

The title refers to a neural network component both in metaphorical and direct ways. The musical content consists of a guided improvisation session partially driven by the musicians' inferences on the written material, reflecting the musician mind as a metaphorical inference engine. The score also provides an input for an actual inference engine, generating a fluid video-notation that guides the improvisation. These elements come together within a context that focuses on racially-biased practices in facial recognition applications. Weights from a biased and insufficient dataset are fed into a third inferencing engine that is optimized for real-time audio processing to achieve a distortion effect. A deliberate distancing between the musical process and the sound effect serves to emphasize the essential identity of the distortion as an output of a faulty neural network. Its separate and insistent presence reminds us the very real consequences of using such networks.

Yiğit Kolat's works draw inspirations and expressions from a wide array of topics ranging from bytebeats to the methods and ethics of artificial intelligence. The complicated political and social environment of his native Turkey is a recurring theme in his diverse output. His works, described as "touching and convincing...a multi-sensory universe," (K.Saariaho) have been recognized by a prestigious array of international organizations, including the Tōru Takemitsu Composition Award, and the Concours International de Composition Henri Dutilleux. His music has been featured throughout the United States, Europe, and Asia by leading ensembles and soloists, among them the Tokyo Philharmonic and Ryoko Aoki (Japan); Solistes de L'Orchestre de Tours, Donatienne Michel-Dansac, and Pascal Gallois (France); Nieuw Ensemble (The Netherlands); Talea Ensemble, Seattle Modern Orchestra and the Argento New Music Project (USA). Kolat earned his Doctorate of Musical Arts at the University of Washington, studying with Joël-François Durand.

Collaborametrum

Collaborametrum means measuring collaboration. Collaborametrum is an experimental work about forms of creativity based on collaborative intelligence. It is a collaborative, interactive, and algorithimc work where the interpreters compose the work through their collaborative movements on stage. Collaborametrum is conceived as a musical cooperative game. The algorithmic system that creates the score is controlled by a machine learning system that measures the collaboration between musicians. The interpreters will be moving freely onstage. The movement will be captured with sensors and received by the computer via WIFI. The Machine Learning system will search for collaborative patterns converting the collaboration into a metric. This metric will be used by a generative algorithm to create the score. The score will be sent to the performers via a real-time notation system. The musicians play their collaboration in real-time.

Fernando Egido studied composition with José Luis de Delás at the School of Music of the University of Alcalá de Henares and received musical training in workshops with composers, analysts, and interpreters around the LIEM or the GCAC. He studied Computer Music with Emiliano del Cerro. He has published several papers at international conferences. His works have been performed at festivals such as Epicemt-room, Sur Aural, EVO 2021, OUA Electroacoustic Music Festival 2020 in Osaka, the International Society for Music Information Retrieval 2020 in Montreal, the Seoul International Electroacoustic Music Festival 2019, the Australasian Computer Music Conference 2019 conference in Melbourne, SID (Sound, Image, Data) 2015 conference in New York, Venice Vending Machine III, New York City Electroacoustic Music Festival (2016, 2017, 2020), JIEN in the Auditory 400 National Museum Art Center Reina Sofía, SMASH Festival, Encontres Festival in Palma Of Majorca, ACA.

Power Trio

Power Trio is a solo piece for guitar, bass and drums. A guitar is fed into a computer system that makes selections from a corpus of bass and percussion sounds that were recorded with Manuel Alcaraz Clemente and Margarethe Maierhofer-Lischka of Graz's Schallfeld Ensemble. The guitar is analysed and used to direct the manner in which sound is drawn from this corpus of pre-recorded sound. The outputs of this system are similarly analysed and used to control sound processing algorithms, and the form of the piece emerges as a result of this complex interaction between live, recorded and processed sound. With enormous thanks to the Institute for Electronic Music's Inter_Agency team (where this piece was started) and FluCoMa (who helped me strategize an interface for it).

Jack Walker is a composer, improviser and researcher who enjoys working with computers. In his live electronics work, he designs digital sound processing networks that adjust their musical output in response to qualities obtained through machine listening. As a performer and researcher, he has presented work at multiple international conferences, festivals and DIY arts spaces. His research covers cybernetics, autonomous systems, agency, participation and performance ecologies, and he is particular interested in the social and cultural ramifications of artificial intelligence technologies. He is currently finishing off his doctorate in Creative Music Practice at The University of Edinburgh and was recently a composer-in-residence with the Inter_Agency team at the Institute for Electronic Music.