

IUI'18 Workshop on Intelligent Music Interfaces for Listening and Creation (MILC)

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ABSTRACT

Digital music technology constitutes a key factor in the music ecosystem. Through intelligent user interfaces, music consumers and producers can effectively and intuitively access and create sound. The goal of the MILC workshop is to provide a forum for the latest developments and trends in intelligent interfaces for music listening and creation by bringing together researchers from areas such as interactive machine learning, music information retrieval, recommender systems, human computer interaction, and adaptive systems.

ACM Classification Keywords

H.5.2 Information Interfaces and Presentation: User Interfaces;
H.5.5 Information Interfaces and Presentation: Sound and Music Computing

Author Keywords

music listening; music creation; sound synthesis; music recommendation; music information retrieval

MOTIVATION

Today's music ecosystem is permeated by digital technology – from recording to production to distribution to consumption. Intelligent technologies and interfaces play a crucial role during all these steps. On the creation side, tools and interfaces like new sensor-based musical instruments or software like digital audio workstations and sound and sample browsers support creativity. Generative systems can support novice and professional musicians by automatically synthesizing new sounds or even new musical material. On the consumption side, tools and interfaces such as recommender systems, automatic radio stations, or active listening applications allow users to navigate the virtually endless spaces of music repositories.

Both ends of the music market therefore heavily rely on and benefit from intelligent approaches that enable users to access sound and music in unprecedented manners. This ongoing trend draws from manifold areas such as interactive machine learning, music information retrieval (MIR) – in particular content-based retrieval systems, recommender systems, human-computer interaction, and adaptive systems, to name but a few prominent examples. In this light, the MILC workshop held in the context of IUI, fosters the convention of the digital music creation and performance and MIR communities

with adaptive user interface experts and provides a forum for the latest developments and trends in intelligent interfaces in these areas.¹

CONTRIBUTIONS

The contributions to the MILC workshop reflect the relevance of intelligent interfaces on both ends of the spectrum.

Papers dealing with *personalization* address needs of both, consumers and creators. In “*How Automated Recommendations Affect the Playlist Creation Behavior of Users*,” Kamehkhosh et al. analyze the influence playlist construction support tools have on resulting playlists and user behavior. In “*geMsearch: Personalized Explorative Music Search*,” Esswein et al. make music collections accessible by facilitating approximate querying and visualization through low-dimensional vector representations learned via graph embedding. Shi and Mysore propose “*MedleyAssistant – A system for personalized music medley creation*” that enables also non-experts to create medleys, while maintaining the possibility to express their individual style.

Interaction with intelligent music systems and user interfaces presents another diverse area. Vigiensoni et al. propose an interactive machine learning approach to optical music recognition in “*An environment for machine pedagogy: Learning how to teach computers to read music*” and show that performance is continuously improved when humans can intervene and correct, therefore teach, the machine. Lindh questions and investigates usability, accessibility and intuitiveness of the ubiquitous skeuomorphic design in music creation interfaces in “*Beyond a Skeuomorphic Representation of Subtractive Synthesis*”. In “*Overviewing a Field of Self-Organising Music Interfaces: Autonomous, Distributed, Environmentally Aware, Feedback Systems*,” Kollias identifies and surveys the area of “self-organising music,” which denotes a field comprising of various intelligent sound and music interfaces and systems.

Intelligent approaches to *composition* support music creators and open up new perspectives. Roberts et al. introduce an interface to explore complex note sequence, drum pattern, and timbre spaces with intuitive controls by utilizing deep-learned representations in “*Learning Latent Representations of Music to Generate Interactive Musical Palettes*”. In “*Lumanote: A Real-Time Interactive Music Composition Assistant*” by Granger et al., songwriters are interactively supported with real-time, scale-aware chord and note suggestions in the process of composition.

¹<https://iui2018milc.github.io>

WORKSHOP ORGANIZERS

Peter Knees is an Assistant Professor of the Institute of Information Systems Engineering of TU Wien. In the last decade, he has been an active member of the Music Information Retrieval research community, reaching out to the related areas of multimedia, text IR, and recommender systems.

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Markus Schedl is an associate professor at the Department of Computational Perception of the Johannes Kepler University Linz. His main research interests include web and social media mining, recommender systems, information retrieval, multimedia, and music information research. He (co-)authored more than 150 refereed conference papers and journal articles.

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Rebecca Fiebrink is a Senior Lecturer at Goldsmiths, University of London. Much of her research focuses on designing the use of machine learning as a creative tool. Fiebrink is the developer of the Wekinator, open-source software for real-time interactive machine learning whose current version has been downloaded over 10,000 times. She is the creator of a MOOC titled “Machine Learning for Artists and Musicians,” which launched in 2016 on the Kadenze platform.

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